

**A STUDY ON THE SYMPTOMATOLOGY AND DIAGNOSTIC
METHODOLOGY OF KARNAAVARTHAM**



Dissertation submitted to
**THE TAMILNADU DR. MGR MEDICAL UNIVERSITY
CHENNAI – 32.**

For the partial fulfilment of Degree
**DOCTOR OF MEDICINE
(Siddha)**

By

DR. P. PARVATHA RANI,
P.G. Scholar,
Department of NoiNaadal,
National Institute of Siddha,
Tambaram Sanatorium, Chennai-600 047.

Under the guideship of
PROF. DR. G. J. CHRISTIAN M.D(S), Ph.D,
Head of the Department, Department of NoiNaadal,
National Institute of Siddha,
Tambaram Sanatorium, Chennai-47.

Study Centre



Department of NoiNaadal,
National Institute of Siddha,
Tambaram sanatorium,
Chennai – 47.

October – 2019.

DECLARATION BY THE CANDIDATE

I hereby declare that this Dissertation entitled “**A STUDY ON THE SYMPTOMATOLOGY AND DIAGNOSTIC METHODOLOGY OF KARNAAVARTHAM**” is a bonafide and genuine research work carried out by me under the guidance of **Prof.Dr. G. J. Christian,M.D(S),Ph.D**, H.O.D., Department of NoiNaadal, National Institute of Siddha, Chennai – 47, and the dissertation has not formed the basis for the award of any other degree, Diploma, Fellowship or other similar title.

Place: Chennai-47.

(Dr. P. Parvatha Rani)

Date: 19.07.2019

BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled as **“A STUDY ON THE SYMPTOMATOLOGY AND DIAGNOSTIC METHODOLOGY OF *KARNAAVARTHAM*”** is a bonafide work done by **Dr.P.ParvathaRani (Reg.No:321615206)** a final year M.D (S), Department of NoiNaadal, Branch V student, National Institute of Siddha, Tambaram Sanatorium, Chennai-47, and the dissertation work has been carried out by the individual only. This dissertation does not represent the dissertation submitted and approved earlier.

Place:

Date:

Name and Signature of the Guide
with Seal

Name and Signature of the HOD
with Seal

Name and Signature of the Director
with Seal

ACKNOWLEDGEMENT

- First I thank almighty for his showered blessings which is the ultimate source of my success.
- I have to give thanks to our Siddhars for all their manifold mercies.
- I express my sincere thanks to the **Vice-chancellor**, The Tamil Nadu Dr.M.G.R Medical University, Chennai-32.
- I express my sincere gratitude to **Prof.Dr.N.J.Muthukumar M.D(S), Ph.D**, Director i/c, National Institute of Siddha - Chennai
- I express my gratitude to **Prof.Dr.V.Banumathy M.D(S)**., former Director, National Institute of Siddha - Chennai, for granting permission to undertake a study in this dissertation topic and also for providing all the basic facilities in order to carry out this work.
- I express my deep sense of gratitude to **Prof. Dr.G.J.Christian M.D(S), Ph.D**, HOD, Department of NoiNaadal, National Institute of Siddha, for his guidance, memorable support and ceaseless encouragement in carrying out this work.
- I express my grateful thanks to **Dr.S.Elansekaran M.D(S), Ph.D**, Associate Professor - Department of NoiNaadal, National Institute of Siddha, for his guidance, moral support and encouragement.
- I express my sincere thanks to **Dr. M. Kanniyakumari M.D(S)**, Lecturer - Department of NoiNaadal, National Institute of Siddha, for his guidance, valuable Support during this work.
- I express my deep sense of gratitude to **Dr.M.Ramamurthy M.D(S), Ph.D**, Lecturer- Department of NoiNaadal, National Institute of Siddha, for his guidance, moral support and encouragement.
- I express my sincere thanks to **Dr.V.Srinivasan M.D(S)**, Lecturer - Department of NoiNaadal, National Institute of Siddha, for his guidance, valuable Support during this work.
- I express my thanks to HODs of all other department, each and every faculties of NIS for their support throughout this dissertation work.

- I wish to thank **Mr.M.SubramaniyamM.Sc., (Statistics)**former Senior ResearchOfficerin National Institute of Siddha for his valuable support during this work.
- I also express my sincere thanks to Chairman and Members of Institutional Ethical Committee(IEC),National Institute of Siddha, Chennai-47, for their valuable inputs.
- I wish to thank other technicians of the Clinical Pathology Laboratory, Bio-chemistry Department and Library and Paramedical staffs of National Institute of Siddha, Chennai.
- I also wish to thank all Laboratory staffs, Library staffs, Hospital staffs, Administrative staffs.
- I also wish to thank Patients for their extended support throughout this dissertation work.
- I express my gratefulness to All My Colleagues, My seniors and My Juniors for lending their helping hands whenever needed during the course of the study.
- Last but not the least, I would like to pay high regards to my better half **Mr. S. Nadarajan** and my delicate daughter **N. P. Shaksitha** and all my family members for their encouragement throughout my research work and lifting me to this stage. I owe everything to them. Besides this, several people have knowingly and unknowingly helped me in thesuccessful completion of this project.

INDEX

S.NO	CONTENTS	PAGE.NO
1.	INTRODUCTION	1
2.	AIM AND OBJECTIVE	4
3.	REVIEW OF SIDDHA LITERATURE	5
3.A	SIDDHA PHYSIOLOGY	5
3.B	SIDDHA PATHOLOGY	22
3.C	DIAGNOSTIC METHODOLOGY	28
4.	READING BETWEEN LINES OF YUGI PHRASES TO MODERN LITERATURE	39
5.	REVIEW OF LITERATURE – KARNAAVARTHAM	46
6.	PATHOGENESIS OF KARNAAVARTHAM	58
7.	DIFFERENTIAL DIAGNOSIS	61
8.	MODERNASPECTS	66
9.	LINE OF TREATMENT AND DIETARY REGIMEN	78
10.	MATERIALS AND METHODS	85
11.	OBSERVATIONS	89
12.	DISCUSSION	122
13.	SUMMARY AND CONCLUSION	126
14.	BIBILIOGRAPHY	127
15.	ANNEXURES	134

1. INTRODUCTION

Siddha system is one of the oldest and the foremost medical systems of the world and it is based on the concepts of 96 *thathuvams*. It is one of the most effective and valuable systems with *Yogam*, *Gnanam Vatham* and *Vaithiyam*.

Treatment and Prevention are the basic aims of the Siddha system of medicine. Siddha system is a unique and vast system which defines health as a perfect state of physical, psychological, social and spiritual wellbeing of an individual. The system not only deals with medicine, but also with spirituality, right way of living, rejuvenation and its main aim is attainment of perfection. This is mentioned in the following words of *Thirumanthiram* as,

உடம்பார் அழியின் உயிரார் அழிவர்
திடம்பட மெய்ஞானம் சேரவும் மாட்டார்
உடம்பை வளர்கும் உபாயம் அறிந்தே
உடம்பை வளர்த்தேன் உயிர் வளர்த்தேனே

- திருமந்திரம்-724

In ancient period Siddhars handled herbs, metals, minerals and living organisms and their products for treatment, rejuvenations and promoted better health.

According to Siddha, *Uyirthathukal* (three humors) and *Udal thathukal* (body constitutions) are the basis of body and life. The proper combination and harmony of the three humors namely *Vatham*, *Pitham* and *Kabam* in their qualities and right proportions are responsible for maintaining good health. When the equilibrium of these three humors are disturbed, by food, lifestyle modifications or any other disorders they are provoked and due to which the disease Manifest itself. This is quoted by **Sage Thiruvalluvar** as,

மிகினும் குறையினும் நோய்செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று

- திருவள்ளுவர்

Diagnosis of disease is an important aspect in any system of medicine. Unless the diagnosis is correct and the root cause is rectified, even though good medicines were to be administered there will be no radial cure. Without proper understandings of the signs and symptoms of the disease, one could not attempt treatment.

This is stated in *Theraiyar Marunthu Baaratham* as,

புவனநாயக னிருந்தும் கௌரவர் முன்
பாண்டவர் பின் போனதென்ன விவரமெனின்
நோய்க்கவிழ்த மென்பதன்றி மருந்திற்கு வினையுமுண்டோ
கவலையுறு நோயாளி முன்னாயுள் வேதியன்பின் காட்சி போனோய்
துவரவடிப்படி போலக் கவரவ
நோய்களைக்கொல்லத் தொடங்கினானே.

- தேரையர்

Physician should diagnose the disease first and analyse the underlying altered humors before giving treatment.

நோய்நாடி நோய்முத னாடி யதுதணிக்கும்
வாய்நாடி வாய்ப்பச் செயல்

- திருக்குறள்

To diagnose the alterations of humors, eight diagnostic tools are used in Siddha. They are *Naadi* (pulse), *Sparisam* (touch), *Naa* (tongue), *Niram* (color), *Mozhi* (voice), *Vizhi* (eyes), *Malam* (stools) and *Moothiram* (urine)³. All together constitute “*Envagai thervugal*” (eight fold examinations). Sage Theraiyar said this as,

நாடி பரிசம் நாநிறம் மொழிவிழி
மலம் மூத்திரம் மிவை மருத்துவராயுதம்

- தேரையர்

Siddhars have classified diseases into 4448 types². Sage Yugi classified diseases based on mainly three humors and among that *Vatha* diseases are 80 types in number. *Karnaavartham* is one of the 80 *Vatha* diseases and its clinical features are pain in the chest, occipital region of head, ear which is boring in nature as in neuralgia, distorted neck, heaviness of the ear, pain of forehead, loss of appetite and sleep disturbance. The symptoms of *Karnaavartham* mentioned in Siddha literature may be correlated with cervical radiculopathy in modern disease classification.

Neck pain is a ubiquitous condition with life time prevalence of 67% to 71%. The point prevalence of neck pain ranges from 10% to 15%. The medical and legal expenses associated with neck pain can be enormous¹⁸. Neck pain may originate from various anatomical sources, including paraspinal soft tissues, intervertebral joints, compression of spinal cord or nerve roots and referred visceral pain. The origin of neck pain has a wide differential diagnoses, which include trauma, degenerative changes, infection and autoimmune disorders.

The perception and resultant reporting of this pain vary significantly according to cultural and social circumstances. Social circumstances also play an important role in an individual's ability to cope with and overcome neck pain.

In radiculopathy, mechanical distortion of the nerve leads to increased vascular permeability, resulting in chronic edema and eventually fibrosis. Compression of dorsal root ganglion is felt to be especially important in producing radicular pain. Clinically, this presents with pain in a dermatomal distribution; dermatomes of higher cervical roots including C3 and C4 are found along the posterior scapula, sub occipital pain with extension to the back of ears, tips of shoulders and may cause paradoxical breathing.

The author has selected the disease ***Karnaavartham*** from the text of Yugi Vaithiya Chinthamani 800 for the clinical study of this dissertation work on the basis of Siddha concepts and to correlate the symptoms of ***Karnaavartham*** with **Cervical Radiculopathy** in modern classification of diseases.

2. AIM AND OBJECTIVES

AIM:

To evaluate the diagnostic methodology and symptomatology of “*Karnaavartham*” through *Envagai thervu*, *Kaalam*, *Nilam* and *Manikadai Nool*.

OBJECTIVES:

1. To collect literary evidences about *Karnaavartham*.
2. To study the detailed etiological factors of *Karnaavartham*.
3. To find out the changes of *Udal Thathu* and *Uyir Thathu*.
4. To analyse the signs and symptoms of *Karnaavartham*.
5. To correlate the symptoms of *Karnaavartham* with that of closely resembling conditions in modern medical literature.
6. To have an idea of incidence of the *Karnaavartham* with reference to sex, age and habit.
7. To standardize the line of treatment for *Karnaavartham*.
8. To recommend a dietary regimen for *Karnaavartham*.

3. A. SIDDHA PHYSIOLOGY

SUGARANA NILAI IN SIDDHA

All the existing things in this world and universe around it are made up by the five basic elements namely *Mann* (Earth), *Neer* (Water), *Thee* (Fire), *Kaal* (Air) and *Aagayam* (Space) are called the *Panja Boothams* (Fundamental Elements). These elements constituting the human body and other worldly substances are explained as *Pancheekaranam* (Mutual Intra Inclusion). Anyone of these elements cannot act independently by itself. They can act only in co-ordination of the other four elements. The living creatures and the non-living things are made up of these five elements.

உலகம் பஞ்ச பூதம்

"நிலம் நீர்தீவளி விசும்போடைந்தும்

கலந்தமயக் கமுலகம் மாதலின்"

-தொல்காப்பியம்

தேகம் பஞ்ச பூதம்

"தலங்காட்டி இந்தச் சடமான ஐம்பூதம்

நிலங்காட்டி நீர் காட்டி நின்றிடுந் தீ காட்டி

வலங்காட்டி வாயுவால் வளர்ந்தே இருந்த

குலங்காட்டி வானில் குடியாய் இருந்ததே"

-பதினெண் சித்தர் நாடி சாஸ்திரம்

As per the above lines, the universe and the human body are made of five basic elements.

A.THE 96 BASIC PRINCIPLES (96 *THATHUVAM*):

According to Siddha system of medicine, '*Thathuvam*' is considered as a science that deals with basic functions of the human body. Siddhars described 96 principles as the basic constituents of human body that include physical, physiological, psychological and intellectual components of an individual. These 96 *Thathuvams* are considered to be the cause and effect of our physical and mental well-being. The *Thathuvam* is the author of the conception of human embryo on which the theory of medicine is based.

1. BOOTHAM – 5 (ELEMENTS):

- *Mann* - Earth
- *Neer* - Water
- *Thee* - Fire
- *Vaayu* - Air
- *Aagayam* - Space

2. PORI -5 (SENSORY ORGANS):

- *Mookku* (Nose) - It is a component of *Man bootham*
- *Naakku* (Tongue) - It is a component of *Neer bootham*
- *Kan* (Eye) - It is a component of *Thee bootham*
- *Thol* (Skin) - It is a component of *Vaayu bootham*
- *Kaadhu* (Ear) - It is a component of *Aagayam bootham*

3. PULAN -5 (FUNCTIONS OF SENSORY ORGANS):

- *Nugarthal* - Smell : It is a component of *Man bootham*
- *Suvaithal* - Taste : It is a component of *Neer bootham*
- *Paarthal* - Vision : It is a component of *Thee bootham*
- *Thoduthal* - Touch : It is a component of *Vaayu bootham*
- *Kettal* - Hearing : It is a component of *Aagayam bootham*

4. KANMENTHIRIYAM – 5 (MOTOR ORGANS) AND KANMAVIDAYAM

- *Vaai* (Mouth) – *Vasanam* - *Vaaku* - The speech occur in relation with Space element
- *Kaal* (Leg) - *kamannam*- *Paadham* -The walking take place in relation with Air element
- *Kai* (Hands) – *Dhaanam* – *Paani* - Giving and taking are carried out with Fire element
- *Eruvai* (Rectum) – *Visarkam* - *Paayuru* -The excreta is removed in association with Water element
- *Karuvai* (Genital organ) – *Aanandham* – *Ubastham* - Sexual acts are carried out in association with Earth element

5. *KARANAM* – 4 (INTELLECTUAL FACULTIES)

- *Manam* – Thinking about a thing
- *Bhuddhi* – Deep thinking or analysing of the thought
- *Siddham* – Determination to achieve it
- *Agankaaram* – Killer instinct

6. *ARIVU* – 1 (WISDOM OF SELF REALIZATION)

- To analyse good and bad.

7. *NAADI* -10 (Channels of Life Force responsible for the Dynamics of Life energy)

- *Idakalai* – Starts from the right big toe and ends at the left nostril.
- *Pinkalai* – Starts from the left big toe and ends at the right nostril.
- *Suzhumunai* – Starts from moolaathaaram & extend upto centre of head.
- *Siguvai* – Located at the root of tongue, helps in swallowing food.
- *Purudan* – Located in right eye.
- *Kanthari* – Located in left eye.
- *Aththi* – Located in right ear.
- *Alambudai* – Located in left ear.
- *Sangini* – Located in genital organs.
- *Gugu* – Located in anorectal region.

8. *VAAYU* – 10 (Vital nerve force which is responsible for all kinds of movements)

- ***PRANAN (UYIR KAAL):***

This is responsible for the respiration of the tissues, controlling knowledge, mind and five sense organs and digestion of the food taken in.

- ***ABANAN (KEEL NOKKU KAAL):***

It lies below the umbilicus. It is responsible for the downward expulsion of stools and urine, ejaculation of semen and menstruation, child birth.

- ***VIYANAN (PARAVU KAAL):***

This is responsible for the motor and sensory functions of the entire body and the distribution of nutrients to various tissues.

- **UTHANAN (MEL NOKKU KAAL):**

It originates at utharakini. It is responsible for digestion, absorption and distribution of food. It is responsible for all the upward movements.

- **SAMANAN (NADUKKAL):**

This is responsible for the neutralization of the other 4 valis, i.e. *Pranan, Abanan, Viyanan and Uthanan*. Moreover it is responsible for the nutrients and water balance of the body.

- **NAAGAN:**

It is a driving force of eye balls and responsible for their movements.

- **KOORMANN:**

It is responsible for the opening and closing of the eyelids and also vision. It is responsible for yawning.

- **KIRUKARAN:**

It is responsible for the salivation of the tongue and also nasal secretion. Responsible for cough and sneezing and induces hunger.

- **DEVATHATHAN:**

This triggers the emotional disturbances like anger, lust and frustration etc. As emotional disturbance influence to a great extent the physiological activities, it is responsible for the emotional upsets.

- **DHANANCHEYAN:**

Expelled after 3 days of death by bursting out of the cranium. It is responsible for edema, plethora and abnormal swellings in the body in the pathological state.

9. ASAYAM – 5 (VISCERAL CAVITIES):

- **Amarvasayam** (Reservoir organ): Stomach (digestive organ). It lodges the ingested food.
- **Pakirvasayam** (Digestive site): Small intestine. The digestion of food, separation and absorption of saaram from the digested food are done by this asayam.
- **Malavasayam** (Excretory organ for the solid waste): Large Intestine, especially rectum. Responsible for the expulsion of undigested food parts and flatus.

- *Salavasayam* (Excretory organ for the liquid waste): Urinary bladder, kidney. Responsible for the formation and excretion of urine.
- *Sukkilavasayam* (Genital organs): Place for the formation and growth of the sperm and ovum.

10. KOSAM – 5 (FIVE STATES OF THE HUMAN BODY OR SHEALTH):

- *Annamaya Kosam* – physical Sheath (Gastro intestinal system)
- *Prnamaya Kosam* – Respiratory Sheath (Respiratory system)
- *Mannomaya Kosam* – Mental Sheath (Cardio vascular system)
- *Vignanamaya Kosam* – Intellectual Sheath (Nervous system)
- *Anandhamaya Kosam* – Blissful Sheath (Reproductive system)

11. AATHARAM – 6 (STATIONS OF SOUL):

- **MOOLADHARAM :**

Situated at the base of the spinal column between genital organ and anal orifice. Letter “ஓம்” is inscribed.

- **SWATHITANAM :**

Located 2 finger breadths above the *Mooladharam*, (i.e.) between genital and naval region. Letter “ந” is inscribed. Earth element attributed to this region.

- **MANNIPOORAGAM :**

Located 8 finger breadths above the *Swathitanam*, (i.e.) at the naval center. Letter “ட” is inscribed. Element is Water.

- **ANAKATHAM :**

Located 10 finger breadths above *Mannipooragam*, (i.e.) location of heart. Letter “சி” is inscribed. Element is Fire.

- **VISUTHI :**

Located 10 finger breadths above the *Anakatham* (i.e.) located in throat. Letter “வா” is inscribed. Element is Air.

- **AAKINAI :**

Located between two eyebrows. Element is Space. Letter “ஐ” is inscribed.

12. MANDALAM- 3 (REGIONS):

- **Thee Mandalam** (*Agni Mandalam*) Fire zone
Fire Region, found 2 fingers width above the *Mooladharam*.
- **Gnayiru Mandalam** (*Soorya Mandalam*) Solar zone
Solar Region, located with 4 fingers width above the umbilicus.
- **Thingal Mandalam** (*Chandra Mandalam*) Lunar zone
Lunar Region, located at the center of two eye brows.

13. MALAM – 3 (THREE IMPURITIES OF THE SOUL):

- **AANAVAM :**
This act masks clarity of thought, knowing the power of the soul, yielding to the Egocentric consciousness like ‘I’ and ‘Mine’ considering everything is to be his own (Greediness)
- **KANMAM :**
Goes in collusion with the other two and responsible for incurring *paavam* (the Sin) and *Punniyam* (virtuous deed/Sanctity)
- **MAYAI :**
Climbing ownership of the property of someone else and inviting troubles.

14. THODAM – 3 (THREE HUMOURS):

- **VALI (VATHAM)**
It is a creative force, formed by *Vaayu & Aakaya bootham*.
- **AZHAL (PITHAM)**
It is a protective force, formed by *Thee bootham*
- **IYYAM (KABAM)**
It is a destructive force, formed by *Man & Neer bootham*

15. EADANAI - 3 (PHYSICAL BONDINGS):

Materialistic affinity Sibbling / Familial bonding

- **Porul patru** - Material bonding
- **Puthalvar patru** - Offspring bonding
- **Ulaga patru** - Worldly bonding

16. GUNAM – 3 (THREE COSMIC QUALITIES):

- ***Sathuva Gunam (Characters of Renunciation or Ascetic Virtues) :***
The grace, control of sense, wisdom, penance, generosity, excellence, silence and truthfulness are the qualities attributed to their benevolent trait.
- ***Raso Gunam (Characters of Ruler) :***
Enthusiasm, wisdom, valour, virtue/penance offering gift, art of learning and listening are the 8 traits.
- ***Thamo Gunam (Carnal and Immoral Characters) :***
Immortality, lust, killing laziness, violation of justice, gluttonousness, falsehood, forgetfulness and fraudulence etc.

17. VINAI – 2 (ACTS):

- ***Nalvinai*** - Good Acts (Meritorious acts)
- ***Theevinai*** - Bad Acts (Deleterious acts)

18. RAGAM – 8 (THE EIGHT PASSIONS):

- ***Kaamam*** - Desire
- ***Kurotham*** - Hatred
- ***Ulobam*** - Stingy
- ***Moham*** - Lust (Intense or Sexual desire, infatuation)
- ***Matham*** - Pride (The feeling of respect towards one's self)
- ***Marcharyam*** - Internal conflict, Envy
- ***Idumbai*** - Mockery
- ***Ahankaram*** - Ego

19. AVATHAI – 5 (FIVE STATES OF CONSCIOUSNESS):

- ***NINAIVU-Awakened state (Sakkiram)***
This state exists between the eye-brows. The four strengths, the five senses, the five actions (*Asayam*) and the four *Andhakaranas* are active in this state.
- ***KANAVU- Dream state (Swappanam)***
Dream state is one in which the five senses and five actions lie dormant at Adam's apple (Throat).

- **URAKKAM- Sleeping state (*Suzhuthi*)**

This is the state in which the *Anthakaranas* are associated with the soul but these could not be expressed to others and its seat being thorax.

- **PERURAKKAM- Deep sleep (*Turiyam*)**

The *seevathma*, along with wisdom lies at the navel region, here respiration takes place.

- **UYIRPADAKKAM- Immersed state of *seevathma* (*Turiyatheetham*)**

Seevathma deeply immersed in the *moolathara* without the awareness of impurity (*malam*), sloth (*Mantham*), delusion (*maya*) another sense of touch.

THE UYIR THATHUKKAL:

The physiological units of the Human body are *Vali* (*Vatham*), *Azhal* (*Pitham*) and *Iyyam* (*Kabam*). They are also formed by the combination of the five elements.

Vatham = *Vali*+*Aagayam*: Creative force

Pitham = *Thee*: Force of preservation

Kabam = *Mann*+*Neer* Destructive force

As per the above lines the Universe and the human body are made of five elements. If these three humours are in the ratio 1:½:¼ in equilibrium or in normal condition, then they are called as the Life forces.

SITES OF UYIR THATHUKKAL:

"பொங்கிய தைந்துக்குள் பொல்லாதது இம் மூன்றுதான்
தங்கிய வாயு சமத்தன் மகாவாதம்
பங்கிய வன்னியால் பகுந்தது பித்தமே
பகுந்த சலத்தில் பரிசிக்கும் நல்லையும்
வகுந்த இம்மூன்றால் வளர்ந்தது நோயெல்லாம்
அகுந்தது தானறிந்து அளவிட்ட யோகிகள்
மகிழ்ந்தே யிதில் நின்ற மயக்கம் அறிவாறே"

-பதினெண் சித்தர் நாடி சாஸ்திரம்

THE FORMATION OF *UYIR THATHUKKAL*

மூவகை நாடியும் உயிர் தாதுவும்

"தாது முறையே தனிஇடை வாதமாம்
போதுறு பின்கலை புகன்றது பித்தமாம்
மாது சுழுமுனை வழங்கிடும் ஐயமாம்
ஓது முறை பார்த்து உணர்ந்தவர் சித்தரே"

-பதினென் சித்தர் நாடி சாஸ்திரம்

மூவகை வாயுவும் உயிர் தாதுவும்

"உணர்ந்த அபானன் உறும் அந்த வாதத்தில்
புணர்ந்த பிராணன் புகும் அந்தப் பித்தத்தில்
அணைந்த சமானன் அடங்கும் கபத்தோடு
இணைந்திவை மூன்றுக்கு எடுத்த குறி ஒன்றே"

-பதினென் சித்தர் நாடி சாஸ்திரம்

Vali = Abanan + Idagalai

Azhal = Piranan + Pinkalai

Iyyam = Samanan + Suzhumunai

I.VALI (VATHAM):

a) THE NATURE OF VALI:

Vali is soft, fine and the temperature (coolness and hotness) could be felt by touch.

b) SITES OF VALI:

"நெளிந்திட்ட வாதமபானத்தைப் பற்றி
நிறைந்திடையைச் சேர்ந்துந்திக் கீழே நின்று
குளிந்திட்ட மூலமதுா டெழுந்து காமக்
கொடியிடையைப் பற்றியெழுங் குணத்தைப் பாரே
நிணமான பொருத்திடமும் ரோமக் காலும்
நிறைவாகி மாங்கிசமெல் லாம்பரந்து"

- வைத்திய சதகம்

According to Vaithiya sathakam, *vali* dwells in the following places: They are *Abanan*, *Idakalai*, Umbilicus, rectum, faecal matters, abdomen, anus, bones, hip joint, navel plexus, joints, hair follicle and muscles.

"அறிந்திடும் வாத மடங்கு மலத்தினில்"

- திருமூலர்

"நாமென்ற வாதத்துக் கிருப்பிடமே கேளாய்
நாபிக்குக் கீழென்று நவில லாகும்"

- யுகி முனிவர்

According to Sage Thirumoolar and Yugi muni, the places of *Vatham* are the anus and below the naval.

c) THE PROPERTIES OF VALI:

“ஒழுங்குடனே தாதேழ் மூச்சோங்கி இயங்க
எழுச்சிபெற எப்பணியுமாற்ற எழுந்திரிய
வேகம் புலன்களுக்கு மேவச் சுறுசுறுப்பு
வாகளிக்கும் மாந்தர்க்கு வாயு”

- சித்த மருத்துவாங்க சுருக்கம்

d) THE FUNCTIONS OF VALI:

1. To stimulate the respiration
2. To activate the body, mind and the intellect.
3. To expel the fourteen different types of natural reflexes.
4. To activate seven physical constituents in functional co- ordination.
5. To strengthen the five sense organs.

In the above process *Vatham* plays a vital role to assist the body functions.

II. AZHAL (PITHAM):

a) THE NATURE OF AZHAL :

The nature of *Azhal* is atomic. It is sharp and hot. The ghee becomes watery, salt crystallizes and jaggery melts because of heat. The heat of *Azhal* is responsible for many actions and their reactions.

b) SITES OF AZHAL :

“தானான பித்தம் பின் கலையைப் பற்றிச்
சாய்வான பிராணவாயு வதனைச் சேர்ந்து
ஊனான நீர்ப்பையி லணுகி மூலத்
துதித்தெழுந்த வக்கினியை யுறவு செய்து
மானேகே ளிருதயத்தி லிருப்பு மாகி

கோனான சிரந்தனிலே யிறக்க மாகி
கொண்டுநின்ற பித்தநிலை கூறி னோமே”

-வைத்திய சதகம்

According to Vaithiya Sathagam, the *pingalai*, *pranan*, urinary bladder, stomach and heart are the places where *Azhal* sustains. In addition to the above places, the umbilicus, epigastric region, stomach, sweat, saliva, blood, essence of food, eyes and skin are also the places where *Azhal* sustains. Yugi muni says that the *Azhal* sustains in urine and the places below the neck.

c) THE CHARACTERS OF AZHAL :

Azhal is responsible for the digestion, vision, maintenance of the body temperature, hunger, thirst, taste etc. Its other functions include thought, knowledge, strength and softness.

d) THE FUNCTIONS OF AZHAL :

1. Maintenance of body temperature.
2. Produces reddish or yellowish colour of the body.
3. Produce heat energy on digestion of food.
4. Produces sweating.
5. Induces giddiness.
6. Produces blood and the excess blood are let out.
7. Gives yellowish coloration to the skin, eyes, faeces and urine
8. Produce anger, heat, burning sensation, inaction and determination.
9. Gives bitter or sour taste.

e) THE TYPES OF AZHAL:

1. Aakkanal – Anal Pitham or Pasaka Pitham – The fire of digestion.

It lies between the stomach and the intestine and causes digestion and dries up the moist ingested substance.

2. Vanna eri – Ranjaga Pitham – Blood promoting fire.

The fire lies in the stomach and imparts red colour to the chyme and produces blood. It improves blood.

3. Aatralanki – Saathaga Pitham – The fire of energy.

It gives energy to do the work.

4. Nokku Azhal – Alosaga Pitham – The fire of Vision.

It lies in the eyes and causes the faculty of vision. It helps to visualize things.

5. Ul oli thee – Prasaka Pitham – the fire of brightness.

It gives colour, complexion and brightness to the skin.

III. IYYAM (KABAM):

a) THE NATURE OF IYYAM :

Greasy, cool, dull, viscous, soft and compact are the nature of Iyyam.

b) THE SITES OF IYYAM :

“கூறினோஞ் சிலேத்மமது சமான வாய்வைக்
கொழுதியே சுழிமுனையைப் பற்றி விந்தில்
கீறியே சிரசிலாக் கிணையைச் சேர்ந்து
சிங்குவையிண் ணாக்குநிண மச்சை ரத்தம்
மீறியே நிறங்கோண நரம் பெலும்பில்
மேவியதோர் மூலைபெருங் குடலிற் கண்ணில்
தேறியதோர் பொருத்திடங்க ளெல்லாஞ் சேர்ந்து
சிலேத்மமது வீற்றிருக்குந் திடங் கண்டாமே”

-வைத்திய சதகம்

Head, tongue, eyes, nose, throat, thorax, bone, bone marrow, joints, blood, fat, sperm and colon are the seats of *Iyyam*. It also lies in the stomach, spleen, the pancreas, chyle and lymph.

c) THE PROPERTIES OF IYYAM :

Stability, greasiness, formation of joints, the ability to withstand hunger, thirst, sorrow and distress are the qualities. It also helps to withstand sufferings.

d) THE FUNCTIONS OF IYYAM :

Greasiness, strength, roughness, knowledge, cool, growth, heaviness of bone, restriction of joint movements, pallor, indigestion, deep sleep and to have a sweet taste in tongue are the functions of *Iyyam*. The skin, eyes, faces and urine are white in colour due to the influence of *Iyyam*.

e) THE TYPES OF IYYAM :

• **Avalambagam– Ali iyyam:**

Heart is the seat of Avalambagam. It controls all other types of *Iyyam*.

- ***Kilethagam –Neerpi iyyam:***

Its location is stomach. It adds moisture & gives softness to the ingested food.

- ***Pothagam –Suvai kaan iyyam:***

Its location is tongue. It is responsible for the sense of taste.

- ***Tharpagam – Niraivaiyyam:***

It gives coolness to the vision.

- ***Santhigam – Ondri iyyam:***

It gives lubrication to the bones particularly in the joints.

THE UDAL THATHUKKAL (PHYSICAL CONSTITUENTS):

Udal Thathukkal is the basic physical constituents of the body. They are also constituted by the Five Elements.

1. ***Saaram (chyme):*** This gives mental and physical perseverance.
2. ***Senneer (Blood):*** Imparts colour to the body and nourishes the body.
3. ***Oon (Muscle):*** It gives shape to the body according to the physical activity and cover the bone.
4. ***Kozhuppu (Fat):*** It lubricates the joints and other parts of the body to function smoothly.
5. ***Enbu (Bone):*** Supports the frame and responsible for the postures and movements of the body.
6. ***Moolai (Marrow):*** It occupies the medulla of the bones and gives strength and softness to them.
7. ***Sukkilam/Suronitham:*** It is responsible for reproduction. These are the seven basic constituents that form the physical body. The bones are predominantly formed by the Earth component, but other elements are also present in it. All the three humours *Vali*, *Azhal* and *Iyyam* present in this 7 constituents. The intake food converted to *udal thaadhu* in which the intake food is converted to *saaram* in the first day, and then it converted to *senneer* in the Second-day, *oon*, *kozhuppu*, *enbu*, *moolai* and *sukkilam/Suronitham* respectively in the following days. So in the seventh day only the intake food goes to the *sukkilam/suronitham*.

UDAL THEE (FOUR KINDS OF BODY FIRE):

There are four kinds of body fire. They are *Samaakkini*, *Vishamaakkini*, *Deekshaakkini* and *Mannthaakkini*.

- **SAMAAKKINI (BALANCED DIGESTIVE FIRE) :**

The digestive fire is called as *Samaakkini*. This is constituted by *Samana Vayu*, *Anala Pitham* and *Kilethaga Kapham*. If they are in normal proportion then it is called as *Samakkini*. It is responsible for the normal digestion of the food.

- **VISHAMAAKKINI (TOXIC DIGESTION) :**

Due to deranged and displaced *Samana Vayu*, it takes a longer time for digestion of normal food. It is responsible for the indigestion due to slow digestion.

- **DEEKSHAAKKINI (ACCENTUATED DIGESTION) :**

The *samana* vayu rounds up the *Azhal*, which leads to increased *Anala Pitham*, so food is digested faster.

- **MANTHAAKKINI (SLUGGISH DIGESTION) :**

The *samana* vayu rounds up the *Iyyam*, which leads to increased *Kilethaga Kapham*. Therefore food is poorly digested for a very longer period and leads to abdominal pain, distention heaviness of the body etc.

THINAI:

There are five *thinai* (The Land)

1. **Kurinji** – Mountain and its surrounding areas
2. **Mullai** – Forest and its surrounding areas
3. **Marutham** - Agricultural land and its surrounding areas
4. **Neithal** - The coastal and its surrounding areas
5. **Paalai** – Desert and its surrounding areas

FEATURES OF THE FIVE REGIONS:

1. KURINJI:

"குறிஞ்சி வருநிலத்திற்கு கொற்றமுண்டி ரத்தம்
உறிஞ்சி வருசுரமு முண்டாம் - அறிஞருரைக்
கையமே தங்குதரா தாமைவல்லை யுங்கதிக்கும்
ஐயமே தங்கும் அறி"

- பதார்த்த குண சிந்தாமணி

Fever causing anemia, any abnormal enlargement in the abdominal organ
(*Vaitruaamai katti*) also leads to *Iyya* disease.

2. MULLAI:

"முல்லை நிலத்தயமே முரிநிரை மேவினுமவ்
வெல்லை நிலைத்தபித்த மெய்துருங்காண் - வல்லையெனின்
வாதமொழி யாததனுள் மன்னு மவைவழிநோய்ப்
பேதமொழி யாதறையப் பின்பு"

- பதார்த்த குண சிந்தாமணி

This *mullai* land leads to *Azhal*, *Vallai* & *Vali* diseases.

3. MARUTHAM:

"மருதநிலம் நன்னீர் வளமொன்றைக் கொண்டே
பொருதனில மாதியநோய் போக்கும் - கருதநிலத்
தாறிரதஞ்சூழ அருந்துவரென் றாற்பிணியெல்
லேறிரதஞ் சூழ்புவிக்கு மில்"

- பதார்த்த குண சிந்தாமணி

All the *Vali*, *Azhal* and *Iyyam* disease will be cured in this land.

4. NEITHAL:

"நெய்தனில மேலுப்பை நீங்கா துறினுமது
வெய்தனில மேதங்கு வீடாகும் - நெய்தல்
மருங்குடலை மிக்காக்கும் வல்லுறுப்பை வீக்கும்
கருங்குடலைக் கீழிறக்குங் காண்"

- பதார்த்த குண சிந்தாமணி

This place induces *Vali* diseases and affects liver and intestines.

5. PAALAI:

"பாலை நிலம்போற் படரைப் பிறப்பிக்க
மேலைநில மியாது விரித்தற்கு - வேலை நில
முப்பிணிக்கும் மில்லம் முறையே யவற்றகலாம்
எப்பிணிக்கு மில்லமஃ தெண்"

- பதார்த்த குண சிந்தாமணி

This land produces all the three *Vali*, *Azhal* and *Iyyam* disease.

KAALAM:

Ancient Tamilians had divisions over the year into different seasons known as *Perumpozhudhu* and likewise in the day, it is known as *Sirupozhudhu*.

a. PERUMPOZHUTHU:

The year is divided into six seasons. They are,

1. *Kaarkalam – Aavani, Purataasi* (August 16-October 15)
2. *Koothir – Aipasi, Kaarthigai* (October 16-December 15)
3. *Munpani – Maargazhi, Thai* (December 16-February 15)
4. *Pin pani – Maasi, Panguni* (February 16-April 15)
5. *Ilavenil – Chithirai, Vaigaasi* (April 16-June 15)
6. *Mudhuvenil – Aani, Aadi* (June 16 – August 15)

b. SIRUPOZHUTHU:

The day has been divided into six parts of four hours each. They are *maalai* (evening), *yammam* (Midnight), *Vaigarai* (Dawn), *Kaalai* (Morning), *Nannpakal* (Noon), *Erpaddu* (Afternoon). The each *perumpozhuthu* and *sirupozhuthu* is associated with the three humours naturally.

NILAM	POZHUTHU	
	PERUMPOZHUTHU	SIRUPOZHUTHU
<i>Kurinji</i> (Moutaineous range)	<i>Koothir kaalam, Munpani</i>	<i>Naduiravu</i>
<i>Mullai</i> (Forest range)	<i>Kaarkaalam</i>	<i>Maalai</i>
<i>Marutham</i> (Agricultural region)	<i>Ilavenil, Venil, kaarkaalam, koothirkaalam, Munpani, Pinpani</i>	<i>Vaigarai, kaalai</i>
<i>Neithal</i> (Coastal region)	<i>Ilavenil, Venil, kaarkaalam, koothirkaalam, Munpani, Pinpani</i>	<i>Pirpagal</i>
<i>Paalai</i> (Arid zone)	<i>Venil, Pinpani</i>	<i>Nadupagal</i>

Table.1 Pozhuthugal

FOURTEEN NATURAL REFLEXES / URGES:

The natural reflexes excretory, protective and preventive mechanisms are responsible for the urges and instincts. They are 14 in number

1. *Vatham* (Flatus)
2. *Thummal* (Sneezing)
3. *Siruneer* (Micturition)
4. *Malam* (Defecation)
5. *Kottavi* (Act of yawning)
6. *Pasi* (Sensation of hunger)
7. *Neer vetkai* (Sensation of thirst)
8. *Erumal* (Coughing)
9. *Elaipu* (Fatigue)
10. *Thookam* (Sleep)
11. *Vaanthi* (Vomiting)
12. *Kanneer* (Tears)
13. *Sukkilam* (Semen)
14. *Suvasam* (Breathing)

These natural reflexes are said to be an indication of normal functioning of our body. A proper maintenance should be carried out and they should not be restrained with force.

3. B. SIDDHA PATHOLOGY

KUGARANA NILAI IN SIDDHA MEDICINE

This is the first medical system to emphasize health as the perfect state of physical, psychological, social and spiritual component of human being. The condition of the human body in which the dietary habits, daily activities and the environmental factors influence to keep the three humours in equilibrium is considered as healthy living.

DISEASE

Disease is also known by other names like sickness, distemper, suffering and ailment, distress of mind, chronic disease and dreadful illness.

1. THE CHARACTERISTIC FEATURES OF THE DISEASE

Diseases are of two kinds

- i. Pertaining to the body
- ii. Pertaining to the mind according to the variation of the three humours.

CAUSES OF DISEASE

Excepting the disease caused by our previous births, the disease is normally caused by our food habits and actions.

This has been rightly quoted in the following verses by Sage Thiruvalluvar,

"மிகினும் குறையினும் நோய்செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று"

-திருவள்ளுவர்

The food and actions of a person should be in harmony with the nature of his body. Any increase or decrease in a humour viz. *Vatham*, *Pitham*, *Kabam* leads to the derangement of the three humours. The acceptance of food means the taste and quality of the food eaten and a person's ability to digest. 'Actions' mean his good words, deeds or bad actions. According to Sage Thiruvalluvar, the disease is caused due to the increase or decrease of three humours causing the upset of equilibrium. So disease is a condition in which there is derangement in the five elements, which alters the three humours, reflected in turn in the seven physical constituents. The change could be an increase or decrease in the humours. This shows the following signs as per vitiation of the individual humour.

2. QUANTITATIVE CHANGES OF UYIR THATHUKKAL

HUMOUR	INCREASED	DECREASED
VALI (Vatham)	Wasting, blackish discoloration, affinity to hot foods, tremors, distended abdomen, constipation, weakness, insomnia, weakness in sense organs, giddiness and laziness.	Body pain, feeble voice, and diminished capability of the brain, decreased intellectual quotient, syncope and increased kaba condition.
AZHAL (Pitham)	Yellowish discoloration of conjunctiva, skin, urine and feces, polyphagia, polydypsia, dyspepsia, burning sensation all over the body and decreased sleep.	Loss of appetite, cold, pallor and features of increased kabam.
IYYAM (Kabam)	Loss of appetite, excessive salivation, diminished activity, heaviness, pallor, cold, decreased physical constituents, dyspnoea, flatulence, cough and excessive sleep	Giddiness, dryness of the joints and prominence of bones. Profuse sweating in the hair follicles and palpitation.

Table.2 Changes of Uyir Thathukkal

3. UDAL THATHUKKAL

UDAL THATHUKKAL	INCREASED FEATURES	DECREASED FEATURES
SAARAM	Loss of appetite, excessive salivation, diminished activity, heaviness, pallor, cold, decreased physical constituents, dyspnoea, flatulence, cough and excessive Sleep	Dryness of skin, tiredness, loss of weight, lassitude and Irritability while hearing louder sounds.
SENNEER	Boils in different parts of the body, splenomegaly, tumours, pricking pain, loss of appetite, haematuria,	Affinity to sour and cold food, nervous, debility, drynezs and Pallor.

	hypertension, reddish eye and skin, leprosy and jaundice.	
OON	Tubercular adenitis, venereal diseases, extra growth around neck, cheeks, abdomen, thigh and genitalia.	Lethargic sense organs, pain in joints, muscle wasting in Mandibular region, gluteal region, penis and thighs.
KOZHUPPU	Identical feature of increased flesh, tiredness, dyspnoea on exertion, extra musculature in gluteal region, external genitalia, chest, abdomen and thighs.	Loins pain, splenomegaly and emaciation.
ENBU	Excessive ossification and dentition	Joint pain, falling of teeth, falling and splitting of hairs and nails.
MOOLAI	Heaviness of the body and eyes, Swollen Inter phalangeal joints, oliguria and non-healing ulcers	Osteoporosis and Blurred vision.
SUKKILAM (OR) SURONITHAM	Increased sexual activity, urinary calculi	Dribbling of sukkilam / suronitham or senner during coitus, pricking pain in the testis and inflamed & contused external genitalia.

Table.3 Changes of Udal Thathukkal

4. SUVAIGAL

TASTES	DISEASES DUE TO HIGH INTAKE
Inippu (sweet)	Develops obesity, excessive fat, increased mucous secretion, indigestion, diabetes, cervical adenitis, increased kabam and its diseases
Pulippu (sour)	Develops nervous weakness, dull vision, giddiness, aneamia, dropsy, dryness of tongue, acne, blisters etc.
Uppu (salt)	Ageing, hair loss, leprosy, dryness of tongue, debility
	Increased dryness of tongue, defected

Kaippu (bitter)	Spermatogenesis, body weakness, dyspnoea lassitude, tremor, back and hip pain
Kaarppu (hot)	Dryness of tongue, generalized malaise, tremor, back pain, lassitude etc.
Thuvorppu (astringent)	Abdominal discomfort, chest pain, tiredness, impotency, vascular constriction, constipation, dryness of tongue etc.

Table 4. Suvaigal

5. KAALAM

KAALAM (Season)	KUTTRAM	STATE OF KUTTRAM
1. Kaar kaalam (Rainy) Aavani -Puratasi(Aug 16 – Oct 15)	Vatham ↑↑ Pitham ↑ Kabam (--)	Ectopic escalation In situ escalation Restitution
2. Koothir Kaalam (Post rainy) Iypasi –Karthigai (Oct 16 – Dec 15)	Vatham (--) Pitham ↑ ↑ Kabam (--)	Restitution Ectopic escalation Restitution
3. Munpani Kaalam (Winter) Markazhi – Thai (Dec 16 – Feb 15)	Vatham (--) Pitham (--) Kabam ↑	Restitution Restitution Restitution
4. Pinpani Kaalam (Post winter) Masi – Panguni (Feb 16 –Apr 15)	Vatham (--) Pitham (--) Kabam ↑ ↑	Restitution Restitution In situ escalation
5. Elavenil Kaalam (Summer) Chithirai – Vaikasi(Apr 16 – Jun 15)	Vatham (--) Pitham (--) Kabam ↑ ↑	Restitution Restitution Ectopic escalation
6. Mudhuvenil Kaalam (Post summer) Aani – Aadi (Jun 16 – Aug 15)	Vatham ↑ Kabam (--)	In situ escalation Restitution

Table 5.changes in Climatic condition of the external world and its corresponding changes in the human organ

6. THINAI

THINAI	LAND	HUMOURS
1. Kurinchi	Mountain and its surroundings - Hilly terrain	Kabam
2. Mullai	Forest and its surroundings - Forest ranges	Pitham
3. Marutham	Farm land and its surroundings – Cultivable lands	All three humours are in Equilibrium
4. Neithal	Sea shore and its adjoining areas, Coastal belt	Vadham
5. Paalai	Desert and its surroundings Arid zone	All three humours are Affected

Table 6. Thinai, Land, Humours

ALTERATION IN REFLEXES (14 Vegangal)

There are 14 natural reflexes involved in the physiology of normal human being. If will fully restrained or suppressed, the following are resulted.

- **Vatham (Flatus)**

This urge should not be suppressed. If it is suppressed it leads to chest pain, epigastric pain. Abdominal pain, ache, constipation, dysuria and indigestion predominate.

- **Thummal (Sneezing)**

If restrained, it leads to headache, facial pain, low back pain and neurotic pain in the sense organs.

- **Siruneer (Urine)**

If restrained, it leads to urinary retention, urethral ulcer, joint pain, pain in the penis, gas formation in abdomen.

- **Malam (Feces)**

If restrained, it leads to pain in the knee joints, headache, general weakness, flatulence and other diseases may also originate.

- **Kottavi (Yawning)**

If restrained, it leads to indigestion, leucorrhoea, and abdominal disorders.

- **Pasi (Hunger)**

If restrained, it leads to the tiredness of all organs, emaciation, syncope, apathetic face and joint pain.

- **Neervetkai (Thirst)**

If restrained, it leads to the affection of all organs and pain may supervene.

- **Kaasam (Cough)**

If it is restrained, severe cough, bad breath and heart diseases will be resulted.

- **Ilaippu (Exhaustiveness)**

If restrained, it will lead to fainting, urinary disorders and rigor.

- **Nithirai (Sleep)**

All organs will get rest only during sleep. So it should not be avoided. Disturbance will lead to headache, pain in the eyes, deafness and slurred speech.

- **Vaanthi (Vomiting)**

If restrained, it leads to itching, anaemia, eye diseases and symptoms of increased Pitham.

- **Kanneer (Tears)**

If it is restrained, it will lead to Sinusitis, heart diseases, headache, eye diseases.

- **Sukkilam (Semen)**

If it is restrained, there will be joint pain, difficulty in urination, fever and chest pain.

- **Suvasam (Breathing)**

If it is restrained, there will be cough, abdominal discomfort and Anorexia.

3. C. DIAGNOSTIC METHODOLOGY

The methodology of diagnosing disease in Siddha system shows uniqueness in its principle. The principle comprises of examination of Tongue, Complexion, modulation in speech, inspection of eyes and findings by palpation. It also includes examination of urine and stool. The reinforcement of Diagnosis is based on *Naadi* (Pulse) examination. All these together constitute '*Envagai thervugal*' which form the basis of diagnostic methodology in Siddha system of Medicine.

These tools not only help in diagnosis but also to observe the prognosis of the disease and for reassuring the patient and to be informed about the nature of diseases. Besides these *Envagai thervugal* there are some other parameters in Siddha system which are greatly helpful in diagnosing various disease, they are *Manikkadai nool* (Wrist circummetric sign) and *Soditham* (Astrology).

ENVAGAI THERVUGAL (Eight fold examination)

The eight such diagnostic methods, collectively referred to as "*Envagai thervu* (Eight type) *Thervugal* (Examination)" in Siddha system.

“அகத்துறு நோயை கரத்தாம லகம்போல்
பகுத்தறிவீர் நாடிப் பரிசம் - தொகுத்த நிறம்
கட்டுவகைச் சொல்மொழிக் கண்ட மல மூத்திரம் நா
எட்டுவகை யாலு மறிவீர்”

- அகத்தியர் வைத்திய சிந்தாமணி

Various aspects of Siddha regarding '*Envagai Thervu*'

"நாடி பரிசம் நாநிறம் மொழிவிழி
மலம் மூத்திரமிவை மருத்துவராயுதம்"

- தேரையர்.

"மெய்குறி நிறந்தொனி விழிநா விருமலம் கைக்குறி"

- தேரையர்

The eight methods of diagnosis are *Naadi* (Pulse), *Sparisam* (Palpation), *Naa* (Tongue), *Niram* (Color), *Mozhi* (Voice), *Vizhi* (Eyes), *Malam* (Feces) and *Neer* (Urine).

1. NAADI (Examination of pulse)

The pulse Diagnosis is a unique method in Siddha Medicine. The pulse should be examined in the right hand for male and the left hand for female. The pulse can be recorded at the radial artery. By keenly observing the pulsation, the diagnosis of disease as well as its prognosis can be assessed clearly.

Naadi is nothing but the Manifestation of the vital energy that sustains the life with in our body. *Naadi* plays an important role in *Envagai thervu* and it has to be considered as foremost thing in assessing the prognosis and diagnosis of various diseases. Any variation that occurs in the three humours is reflected in the *Naadi*. These three humours organize, regularize and integrate basic functions of the human body. So, *Naadi* serves as good indicator of all ailments.

நாடி பார்க்கும் வகை

"இடுமென்ற நாடிகள் பார்க்கும் வகையைக்கேளு
என்னவென்றால் நடுவிரல் நீவிப்பின்னே
அடுமென்ற அடுத்தவிரல் மோதிரமாம் விரலை
அப்பனே இளத்தபின்பு சுண்டுவிரலினுத்து
உடுமென்ற தூண்டுவிரலி னுத்து அப்பால்
உத்ததொரு அங்குட்ட விரலைநீ விக்கரத்தில்
படுமென்ற சீயோதி அங்குல மோதள்ளி
பார்தவிட மூன்றுதாம் சுரம்பார்க்கும் வகையே
வகைஎன்ன வாதமதுஒண்ணரையாம் பித்தம்
வளமையொன்று அய்யங்கால் வளமாய்நிற்கில்
பகையில்லை நாடிகளுந் தொந்த மில்லை
பண்பான் சுகரொசருபக் கூறுசொன்னேன்"

- அகத்தியர் கனகமணி 100

Naadi is felt by

Vali - Tip of index finger

Azhal - Tip of middle finger

Iyyam - Tip of ring finger

மூவகையும் மாத்திரை அளவும்:

"வழங்கிய வாதம்மாத்திரை ஒன்றாகில்
வழங்கிய பித்தம் தன்னில் அரைவாசி
அழங்கும் கபந்தான்அடங் கியேகாலோடில்
பிழங்கிய சீவர்க்குப் பிசுகொன்று மில்லையே"

- குணவாகட நாடி

The pulse is measured in *Mathirai* (wheat/grain expansile heights). The normal unit of pulse diagnosis is 1 *Mathirai* for *Vali* (*Vaadham*), ½ for *Azhal* (*Pitham*) and ¼ for *Iyyam* (*Kabam*).

நாடி நடை

"வாகிலன்னங் கோழி மயிலென நடக்கும் வாதம்
ஏகிய வாமையட்டை யிவையென நடக்கும் பித்தம்
போகிய தவளை பாம்பு போலவாம் சேத்துமந்தான்"

- குரு நாடி

Compared to the gait of various animals, reptiles and birds.

Vali - Gait of Swan and peacock

Azhal - Gait of Tortoise and Leech

Iyyam - Gait of Frog and Serpent

2. SPARISAM (Examination by touch)

TOUCH (தொடு உணர்வு):

"வெம்மை குறைந்தாலு மிகுந்தாலும் வாதபித்தம்
தம்மை நிரைநிரையாய்ச் சாற்றுவார்-வெம்மையன்றி
சீதமுஅவ் வாறாகில் சிலேட்டும் மொன்றுதொந்த
மீதமும்அவ் வாறாகு மேல்"

- அகத்தியர் வைத்திய சிந்தாமணி

"நேயமுடனே வாதத்தின் தேசந்தானும்

நேர்மையாய் குளிர்ந்து சில விடத்திலே தான்

மாயமுட னுட்டணமுந் துடிதுடிப்பு

மருவுதலாம் பித்தத்தின் தெகந் தானும்

தோயவே வுட்ணமதா யிருக்குந் தெளிவாய்

சேத்துமத்தின் தேகமது குளிர்ந்திருக்கும்

பாய் தொந்த தேகமது பலவாறாகும்

பரிந்து தொட்டுத் தேகத்தைப் பார்த்துப் பேசே"

- கண்ணுசாமி பரம்பரை வைத்தியம்

In *Vali* disease, some regions of the body felt chill and in some areas they are hot.

In *Azhal* disease, heat is felt.

In *Iyya* disease, chillness is used to be felt.

In *Thontham* diseases, we can feel altered sensations.

3. NAA (Examination of tongue)

"பலமான ருசியறியும் நாவின் கூற்றை

பகர்கின்றேன் வாதரோகி யின்றன் நாவு

கலமாக வெடித்து கறுத்திருக்கு முட்போல்

கண்டு கொள்வாய் பித்தரோகியின்றன் நாவு

நலமுற சிவந்து பச்சென்றிருக்கும் நட்பிலா

சிலேத்துமரோகி யின்றன் நாவு

தலமதனிலுற்றமுதி யோர்கள் சொன்ன

தன்மையடி தடித்து வெளுத்திருக்கும் பாரே"

- கண்ணுசாமி பரம்பரை வைத்தியம்

In *Vali* derangement, tongue will be cold, rough, furrowed and tastes pungent.

In *Azhal*, it will be red or yellow and bitter taste will be sensed.

In *Iyyam*, it is pale, sticky and sweet taste will be lingering.

In *Thontham*, tongue will be dark with raised papillae and dryness.

4. NIRAM (Examination of complexion)

"தேகத்தி னிறந்தானுஞ் செப்பக் கேளீர்

சிறுமையாய் வாதந்தான் கறுத்தி ருக்கும்

போகத்தின் பித்தநிற மஞ்ச ளாகும்

பெருஞ்சேதம் ரோகிக்கு வெளுப்ப தாகும்

பாகத்தின் தொந்தரோ கிக்குத் தானும்

பலபலவன் ணமுமாகிப் பரந்து நிற்கும்"

- கண்ணுசாமி பரம்பரை வைத்தியம்

In *Vali*, *Azhal* and *Iyyam* variations, the complexion of the body will be dark, yellow or red and fair respectively.

"உரைத்தகற் பான்வாத ரோகிபித்த ரோகி
அரைத்தமஞ்ச ளைக்குளித்தோன் ஆவான் - இரத்தம்
குளித்தவனு மாவான் கொடும்சிலேத்தும் ரோகி
வெளுத்திடுவான் தொந்த ரோகியே"

- அகத்தியர் வைத்திய சிந்தாமணி

According to *Agathiyar Vaithiya ChinthaManni* – 4000, In *Vatha*, *Pitha* and *Kaba* vitiations the colors of body like as yellow, red and pale.

"மூன்றாகும் வாதபித்த சிலேத்து மத்தால்
மிகுந்தமுறத் தொந்தித்த ரோகி தேகம்
தோன்றாத சீதய வுஷ்ணங் காலமூன்றுந்
தொகுத்தேன்யான் திரேகத்தி நிறத்தைக் கேளு
ஊன்றாத வாதவுடல் கறுத்துக் காணும்
ஊறியபித்த முடல் சிவப்புப் பசுமைகாணும்
போன்றாத வையவுடல் வெண்மை தோன்றும்
பொருந்துந்தொந்த ரோகவுடற் கிவற்றை யொக்கும்"

- கண்ணுசாமி பரம்பரை வைத்தியம்

According to *Kannusamy Paramparai Vaithiyam*, In *Vatha*, *Pitha* and *Kaba* vitiations, the colors of the body like as black, reddish green and white. In *Thontha* constitution, the color of the body will be associated with combination of two humours.

"பனைவாத தேகநிறங் கறுத்து நிற்கும்
பைத்தியதேக நிறமஞ்சள் சிவப்பதாமே
தாமே சிலேட்டு மதேகநிறம் வெளுப்பு தான்
தொந்தேகம் இந்நால் விதமாய நிற்கும்"

- தன்வந்திரி (பதினெண் சித்தர் நாடி சாத்திரம்)

According to Pathinen Siddhar Naadi Nool, In *Vatha*, *Pitha* and *Kaba* vitiations, the colors of the body like as black, yellowish red and white. In *Thontha* constitution, the color of the body will be associated with combination of two humours.

5. VIZHI (Examination of Eyes)

"உண்மையாய் கண்களுக்குறிப் பதைக்கேள் வாதம்
உற்றவிழி கறுத்துநொந்து நீருங் காணும்
தண்மையிலாப் பித்தரோகி யின்றன் கண்கள்
சார்பாகப் பசுமைசிவப் பேறுங் காணும்
வண்மையிலா வையரோகி விழிகள் தானும்
வளமான வெண்மைநிற மேதா நாதம்
திண்மையிலாத் தொந்தரோகி யின்றன் கண்கள்
தீட்டுவாய் பலநிறமென் றறைய லாமே"

- கண்ணுசாமி பரம்பரை வைத்தியம்

"காணுகின்ற வாத ரோகிக்கு கண்கள்
கருநிறமாய் நொந்துமிகத் தண்ணீர்பாயும்
பூணுகின்ற பித்தரோகிகடி மஞ்சள் போலிருக்கம்
சிவப்பு நிறப்பொலிவு தோன்றும்"

- பதினெண் சித்தர் நாடி சாத்திரம்

In *Vali* disease the tears are darkened.

In *Azhal* disease tears are yellow.

In *Iyya* disease tears are whitish in colour

In *Thontha* disease the tears are multi coloured.

In *Vali* disease there will be excessive tears (epiphora).

In disturbance of all three humours, eyes will be inflamed and reddish.

6. MOZHI (Examination of voice)

"பார்பதான் வாதரோகி யின்றன் வார்த்தை
பக்குவமாய்ச் சமசத்த மாயிருக்கும்
சேர்ப்பதுதான் பித்தரோகியின்றன் வார்த்தை
செப்பக்கோள பெலத்துமே யுறத்திருக்கும்
ஏற்பதுதான் ஐயரோகி யின்றன் வார்த்தை
யெளிதாகச் சிறுத்திருக்குமியல்பி தாகும்
கேசற்கவே யிம்முன்றுந் தொந்தமாகில்
கூசாமற் பலவிதமாய் பேசுவாரே"

- கண்ணுசாமி பரம்பரை வைத்தியம்

In variation of *Vali*, *Azhal* and *Iyyam* the voice will be medium, high and shrill/low pitched respectively. By the voice, the strength of the body can be assessed.

7. *MALAM* (Examination of feces)

"ஒக்குமே வாத நோய் மலத்தைப் பார்க்கில்
உகந்தமலம் கறுகியெ கறுத்திருக்கும்
மிக்கபித்த நோய்மலத்தை யுற்றுப் பார்க்கில்
மிகுந்தசிவப்புடன் பசுமை தானுந் தோற்றும்
மைக்குவளை மானேகே ளைய ரோகம்
மலமதுதான் வெண்மைனிற மாயிருக்கும்
பக்குவமா யிம்மூன்றுந் தொந்திப் பாகில்
பகருமின் நிறங்கள்வகை பரிந்து காணும்"

- கண்ணுசாமி பரம்பரை வைத்தியம்

In excacerbated *Vali*, faces is hard, dry and black in colour.

In *Azhal* vitiation, it is yellow.

In *Iyyam* disturbances it is pale

In *Thondham*, it is mixture of all colours.

8. *MOOTHIRAM* (Examination of urine)

"ஓங்கிய வாதத்தோர்க்கு நீர்விழுங் குணந்தா நுரைக்கின்ற
பூங்கொடி கடுத்து நொந்து சிறுத்துடன் பொருமி விழும்
பாங்குடன் பித்ததோர்க்கும் பசிய நீர் சிவந்து காட்டி
ஏங்கவே கறுக்கதாக எரித்துடன் கடுத்து வீழும்
வீழுமே சிலேற்பனத்தோர் நீர்க்குணம் விளம்பக் கேளாய்
நாளுமே வெளுத்துறைந்து நலம்பெறவீழுங் கண்டாய்
வாள்விழி மானேதொந்த ரோகமானிடர்க்குந் தானே
தாளுநீர் பலநிறந்தா னெனவேசாற்றி னோமே"

- கண்ணுசாமி பரம்பரை வைத்தியம்

For patients suffering from *Vatha* diseases, the urine will be scanty and dysuria. For patients suffering from *Pitham* the urine will be greenish red in colour and there will be burning micturition.

தேரையர் நீர்க்குறி நெய்க்குறி

"அருந்துமாறிரதமும் அவிரோதமதாய்
அஃகல் அலர்தல் அகாலவூன் தவிர்ந்தழற்
குற்றளவருந்தி உறங்கி வைகறை
ஆடிக்கலசத் தாவியே காது பெய்
தொருமுகூர்த்தக் கலைக்குட்படு நீரின்
நிறக்குறி நெய்க்குறி நிறுமித்தல் கடனே"

- தேரையர் நீர்க்குறி நெய்க்குறி

Theraiyar, one of the renowned authors of Siddha medicine described urine examination and stages of health. He had explained about the colour and consistency of the urine in vitiated humour and disease (*Neerkuri*). He also emphasized the spreading nature of a single drop of oil on the surface of the urine indicating the imbalance of specific *dosha* and prognosis of disease (*Neikkuri*).

Neerkkuri:

“வந்த நீர்க்கரி எடை மணம் நுரை எஞ்சலென்
றைந்தியலுளவவை யறைகுது முறையே"

- தேரையர் நீர்க்குறி நெய்க்குறி

Five characters of urine has to be examined. Those are colour, consistency, odour, frothy and deposits.

Colour of the urine

Normal urine is straw yellow coloured with mildly aromatic. The time of the day and food taken will have an impact on the colour of the urine.

Colour of the urine in diseased condition

Yellow colour (Similar to straw soaked water) - Indigestion

Lemon colour - Good digestion

Reddish yellow - Heat in body

Colour similar to flame of forest red or flame coloured - Excessive heat

Colour of saffron - Extreme heat

Neikkuri:

"அரவென நீண்டினஃதே வாதம்
ஆழிபோல் பரவின் அஃதே பித்தம்
முத்தொத்து நிற்கின் மொழிவதன் கபமே"

-தேரையர் நீர்க்குறி நெய்க்குறி

The spreading pattern of oil drop is the indicative of *Vali*, *Azhal* and *Iyyam* diseases.

Aravu (Snake Pattern of spread) indicates *Vali* disease.

Aazhi (Ring Pattern of spread) indicates *Azhal* disease.

Muthu (Pearl Pattern of spread) indicates *Iyya* disease.

In *Neikkuri*, the rapid spread of oil drop; Pearl beaded and Sieve type of spreading pattern indicates incurable state of the disease. From this, we can assess the prognosis by the *Neikkuri*.

Indications of spreading pattern of oil

Lengthening	-	<i>Vali</i>
Splits	-	<i>Azhal</i>
Sieve	-	<i>Iyyam</i>
Stands as a drop	-	Poor prognosis
Slowly spreads	-	Good prognosis
Drop immerses into Urine	-	Incurable disease

MANIKKADAI NOOL (Wrist circumetric sign)

"கமலக்கை மணிக்கையில் கயறு சூத்திரம்
விமலனே நோக்கியே வேடமாமுனி
திமிலாம் பிணியது சேரச் செப்பியே
அமலனாமுனிக்கு முன்னருளிச் செய்ததே"

- பதினெண் சித்தர் நாடிநூல்

According to the Pathinen Siddhar Naadinool, *manikadai Nool* is also helpful in diagnosis. This *Mannikkadai Nool* is a parameter to access the disease by measuring the circumference of the wrist by means of a thread and then expressing it in terms of patient's finger breadths. By this measurement the disease can be diagnosed.

Mannikkadai Nool Inference

(Ref: Agathiyar Soodamani Kayaru Soothiram)

When the *Mannikkadai Nool* is 11 fbs, the person will be stout and he will live a healthy life for many years. When the *Mannikkadai Nool* measures between 4 & 6, it indicates poor prognosis of disease and the severity of the illness will be high and it leads to death.

Measurement Possible conditions

- 10 fbs pricking pain in chest and limbs, gastritis and ulcer result.
- 9 $\frac{3}{4}$ fbs Fissure, dryness and cough will be resulted.
- 9 $\frac{1}{2}$ fbs Odema, increased body heat, burning sensation of eye, fever, Mega noi & Anorexia.
- 9 $\frac{1}{4}$ fbs Dysuria, Insomnia, Sinusitis and Burning sensation of Eye.
- 9 fbs Impaired hearing, pain around waist, thigh pain, unable to walk.
- 8 $\frac{3}{4}$ fbs Increased body heat, skin disease due to toxins, abdominal discomfort, cataract, sinusitis.
- 8 $\frac{1}{2}$ fbs Leucorrhoea, venereal disorder and Infertility will occur.
- 8 $\frac{1}{4}$ fbs Stout and painful body. Headache, Sinusitis and toxins induced Cough.
- 8 fbs Abdominal discomfort, gastritis, anorexia & venereal diseases.
- 7 $\frac{3}{4}$ fbs Piles, burning sensation of limbs, headache, numbness occur.
- Within 2 years cervical adenitis and epistaxis results.
- 7 $\frac{1}{2}$ fbs Osteoporosis, abdominal discomfort, burning sensation of eyes, increased body temperature. Within 6 days all the joints of the limbs presents a swelling.
- 7 $\frac{1}{4}$ fbs Lumbar pain, increased pitha in head, anemia, eye pain, odema and somnolence
- 7 fbs Pitham ascends to head, haemetemesis, phlegm, burning sensation of limbs and constipation.
- 6 $\frac{3}{4}$ fbs Eye ache, dizziness, testis disorder. Within 3 years it causes anuria, pain and burning sensation over limbs, facial sweating results.
- 6 $\frac{1}{2}$ fbs Thirst, anorexia, increased body heat and Vatham results.
- 6 $\frac{1}{4}$ fbs Diarrhea, belching, vomiting and mucous dysentery
- 6 fbs Reduced weight, phlegm in chest. It results in death within 20 days.
- 5 $\frac{3}{4}$ fbs Delirium, dizziness, loss of consciousness. It results in death even if the patient takes gruel diet

- 5 ½ fbs Severity of illness is increased. Toxins spread to the head. Tooth darkens. Patient will die in 10 days.
- 5 ¼ fbs Patient seems to be sleepy and death results on the next day.
- 5 fbs Pallor and dryness of the body. Kabam engorges the throat and the person will die.
- 4 ¾ fbs Dryness of tongue and tremor present. Patient will die in 7 days.
- 4 ½ fbs Shrunken eyes, odema will present and death results in 9 days.
- 4 ¼ fbs Tremor, weakness of limbs and darkening of face occurs.
- 4 fbs Pedal oedema will be present. Patient will die in 5 days.

4. READING BETWEEN THE LINES OF KARNAAVARTHAM FROM YUGI'S PHRASES TO MODERN LITERATURE

கர்ணாவர்த்தம்

வர்த்தமாய் மார்போடு பிடரி காது
வலித்துமே யாப்புகொண்ட டித்தாற் போலக்
குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்
கோணியே கழுத்துங்கா துங்க னக்கும்
அற்றமா யுச்சியிலு நெற்றி தன்னில்
அடிக்கடிக்கு நோயாகி யசதி யாகும்
பற்றமாய்ப் பசியின்றி உரக்க மின்றேல்
பார கர்ணாவர்த்தமென்றே பகர லாமே
- யூகி வைத்திய சிந்தாமணி 800

Karnaavartham is one of the 80 *Vatha* diseases and its clinical features are pain in the chest, occipital region of head, ear which is boring in nature as in neuralgia, distorted neck, heaviness of the ear, weakness of forehead, loss of appetite and sleep disturbance.

BREAKUP SYMPTOMATOLOGY

S.No	LINES OF POEM	BREAKUP SYMPTOMATOLOGY
1	வர்த்தமாய் மார்போடு பிடரி காது வலித்துமே	Pain in the chest, occipital region of head and ear.
2	யாப்புகொண்ட டித்தாற் போலக் குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்	Ear pain
3	கோணியே கழுத்துங்கா துங்க னக்கும்	Distorted neck, heaviness of the ear and neck.
4	அற்றமா யுச்சியிலு நெற்றி தன்னில் அடிக்கடிக்கு நோயாகி யசதி யாகும்	Pain of head and forehead.
5	பற்றமாய்ப் பசியின்றி உரக்க மின்றேல்	Loss of appetite and sleep disturbance.

Table: 4.1 Breakup Symptomatology

According to Lexicons

கர்ணாவர்த்தம் - கர்ண சூலை

சிலேத்தும பண்டங்களை புசிப்பதினால் வாயு செவி மூலத்தில் பரவி குத்தலுடன் வலியும், தலை, பிடரி, நெற்றி, கண், புருவம், தாடை, கண்டம் முதலியவிடங்களில் வாளால் அறுப்பது போல் வலியும், குடைச்சலும் உண்டாக்கும் ஓர் செவிவாதம்.

A piercing pain in the region of the ear and inside the tympanic membrane due to dearranged humour Vaayu caused by irregular diet i.e., taking food or other articles of fare giving rise to phlegmatic tendencies. It is also characterized by neuralgic affections of the temples, nape of the neck, forehead, eyes, eyelids and jaw.

S.No	Yugi Text	Meaning in Tamil	Meaning in English	Reference
1	கழுத்து	கண்டம் தலையும் உடலும் சேருமிடம்	The part of the body that connects the head with the trunk- Neck	T.V.S Dictionary Vol 2 1254
2	குடைச்சல்	வாயுவினால் ஏற்படும் ஓர் வலி.	A continuous boring pain as in neuralgia	T.V.S Dictionary Vol 2 1499
3	கோண	கோணு	to be crooked, bent, curved, angular, serpentine; to be deviate, diverge or turn out of the proper course	A comprehensive tamil English dictionary M. Winslon 377
4	வர்த்தமாய்	நிகழ்காலம்	present time; occurring events	A comprehensive tamil English dictionary M. Winslon 920
5	வலி	-	A cramp or throbbing pain: shrinking or contracting of a limb; convulsion, spasm.	A comprehensive tamil English dictionary M. Winslon
6	மார்பு	நெஞ்சு	Chest	Tamil Lexicon Vol V Part I University of Madras 1982

7	பிடரி	பின்கழுத்து	Nape of neck	Tamil Lexicon Vol V Part I University of Madras 2652
8	அற்றம்	சற்று	A little bit	Tamil Lexicon Vol V Part I University of Madras 80
9	அசதி	களைப்பு	Weariness, fatigue, drowsiness, languor	Tamil Lexicon Vol I University of Madras 150
10	அடிக்கடி	மீண்டும் மீண்டும்	Frequently, often, repeatedly	Tamil Lexicon Vol I University of Madras 257
11	அடி	தாக்கு	Blow, stroke, blast	Tamil Lexicon Vol I University of Madras 256
12	ஆப்பு	-	Wedge used in splitting	A comprehensive tamil English dictionary M. Winslon 68
13	உச்சி	தலை	The head	A comprehensive tamil English dictionary M. Winslon 122
14	நெற்றி	-	Forehead	A comprehensive tamil English dictionary M. Winslon 697
15	பசி	-	Hunger, appetite, craving for food	A comprehensive tamil English dictionary M. Winslon 707

16	பற்று	பிடிக்கை	Grasp, acceptance, reception	A comprehensive tamil English dictionary M. Winslon 748
17	நோய்	உடம்பில் பல விகற்பங்கள் ஏற்பட்டு அதன் சக்தி அதிகரித்து இருக்கும்போது அதை எதிர்க்க தேக சுபாவத்திற்கு முடியாத தன்மை	That condition arising from inability of bodily nature to meet with or neutralize the increased morbid effects resulting from the varied changes taking place in the system.	T.V.S Dictionary Vol IV Part II 1997

Table.4.2 Light From Lexicons

ANALOGY BETWEEN THE LINES OF YUGI AND MODERN TEXT ABOUT KARNAAVARTHAM

ANALOGY BETWEEN THE LINES OF YUGI AND MODERN TEXT ABOUT KARNAAVARTHAM

YUGI VAITHIYA CHINTHAMANI PHRASE (*KARNAAVARTHAM*)

“வர்த்தமாய் மார்போடு பிடரி காது

வலித்துமே யாப்புகொண்ட டித்தாற் போலக்”

QUOTINGS FROM MODERN TEXT ABOUT CERVICAL RADICULOPATHY

“.....Sub occipital pain with extension to the back of the Ear. If C3, C4 and C5 are all involved, may cause paradoxical breathing.....”

“.....Symptoms may arise owing to irritation or activation of receptors as in pseudo angina pectoris.....”

Gary S. Firestein, Ralph C. Budd, Sherine E.Gabriel, Lain B. McInnes, James R. O'Dell, MD, Kelley's Textbook of Rheumatology, Ninth Edition, 2013

YUGI VAITHIYA CHINTHAMANI PHRASE (*KARNAAVARTHAM*)

“குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்
கோணியே கழுத்துங்கா துங்க னக்கும்”

**QUOTINGS FROM MODERN TEXT ABOUT CERVICAL
RADICULOPATHY**

“.....Numbness and heaviness of neck and pinna of Ear. Pain from
caudad aspect of the neck to superior aspect of the shoulder.....”

Gary S. Firestein, Ralph C. Budd, Sherine E.Gabriel, Lain B. McInnes,
James R. O'Dell, MD, Kelley's Textbook of Rheumatology, Ninth Edition,
2013

YUGI VAITHIYA CHINTHAMANI PHRASE (*KARNAAVARTHAM*)

“அற்றமா யுச்சியிலு நெற்றி தன்னில்

அடிக்கடிக்கு நோயாகி யசதி யாகும்”

**QUOTINGS FROM MODERN TEXT ABOUT CERVICAL
RADICULOPATHY**

“.....Localized axial neck pain is commonly reported as originating posteriorly with extension into the occiput.....”

“..... Pain referred to the occiput may radiate to the Ear and down to the neck. Cervical spinal disease less commonly can be the cause of headache, pseudo angina pectoris and otolaryngologic sensations.....”

Gary S. Firestein, Ralph C. Budd, Sherine E. Gabriel, Lain B. McInnes,
James R. O'Dell, MD, Kelley's Textbook of Rheumatology, Ninth Edition, 2013

5. REVIEW OF LITERATURE:

கர்ணாவர்த்தம்

வர்த்தமாய் மார்போடு பிடரி காது
வலித்துமே யாப்புகொண்ட டித்தாற் போலக்
குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்
கோணியே கழுத்துங்கா துங்க னக்கும்
அற்றமா யுச்சியிலு நெற்றி தன்னில்
அடிக்கடிக்கு நோயாகி யசதி யாகும்
பற்றமாய்ப் பசியின்றி உரக்க மின்றேல்
பார கர்ணாவர்த்தமென்றே பகர லாமே
- யூகி வைத்திய சிந்தாமணி 800.

It is a clinical condition characterized by pain in the chest, occipital region of head, ear which is boring in nature as in neuralgia, distorted neck, heaviness of the ear, weakness of forehead, loss of appetite and sleep disturbance.

VATHAM

INTRODUCTION TO VATHAM

According to T.V. Sambasivam pillai, the vali is defined as the one of the three humors (life forces), occupying the region below navel. It is responsible for all movements of the body. It spreads throughout the body and causes respiration, hunger, thirst etc. it is the energy or power that prevails all over the body keeping various tissues in good condition. Vali is soft, fine and temperate (coolness) which could be felt by touch. It is the base for the genesis of other two humors.

THE SITES OF VALI

"நெளந்தீட்ட வாதமபானத்தைப் பற்றி
நிறைந்திடையைச் சேர்ந்துந்திக் கீழே நின்று
குளிந்தீட்ட மூலமதூ டெழுந்து காமக்
கோடியிடையைப் பற்றியெழுங் குணத்தைப் பாரே".
"குணமான வெலும்பைமேற் றொக்கை சாடி
நிறைவாகி மாங்கிமெல் லாம்பரந்து
கால்காட்டி வாதமெங்குங் கலக்குந் தானெ".

- வைத்திய சதகம்

According to *Vaidya sathakam*, Vali dwells in the following places: umbilicus, rectum, *Abanan*, *Idakalai*, abdomen, anus, bones, hip joint, skin, navel plexus, joints, hair follicles and muscles.

"அறிந்திடும் வாத மடங்கு மலத்தினில்"

- திருமூலர்

"நாமென்ற வாதத்து கிருப்பிடமே கேளாய்
நாபிக்கு கீழென்று நவில வாகும்".

- யுகி முனி

According to Sage thirumoolar and Yugi muni, the places of *Vali* are anal region and the region below the navel.

"அறிந்திடும் எல்லாம் ஒன்றாய் ஆவிக்கும் அதிர்வானந்த
செறிந்திடும் வன்னிதானும் மூடிடும் கண்ணிலே தான்
பறிந்திடும் வாய்வு தானும் பரிசிக்கும் எங்கும் பாரே".

- அகத்தியர் வைத்திய காவியம்

According to *Agathiyar Vaithiya Kaviyum*, the *Vali* exists all over the body.

"அபானமுத லுந்திவரை வாதநிலை
உந்தியின் மேல் மார்பு மட்டும் பித்தநிலை"

- அனுபோக வைத்திய பிரம ரகசியம்

According to *Anupoga Vaithya Brama Ragasiyam*, the *Vali* exists between the Umbilicus and navel region.

PROPERTIES OF VALI

"ஒழுங்குடனெ தாதேழ் முச்சோங்கி மயங்க
எழுச்சுபெற எப்பணியுமாற்ற-எழுந்திரிய
வேகம் புலன்களுக்கு மேவச் சுறுசுறுப்பு
வாக்களிக்கும் மாந்தர்க்கு வாயு"

- மருத்துவ தனிப்பாடல்

The following are the inherent properties of *Vali*,

- To stimulate
- To respire
- To activate the body, mind and the intellect
- To operate the fourteen different kinds of natural reflexes/urges
- To activate the seven physical constituents in functional co-ordination
- To strengthen the five sense organs
- In the above processes Vatham plays a vital role to assist the body function.

Functions of deranged *Vatham (Vali)* (Abnormal functions of *Vatham*)

- Body pain
- Pricking pain

- Pain as though the body is tightly bounded by cords
- Nervous debility
- Tremor
- Rigidity
- Dryness
- Remorseless
- Debility (Emaciation)
- Throbbing pain (restriction of movement)
- Trauma
- Dislocation of joint
- Weakness of functional organs and loss of functions
- Loss of taste sensation or perception of astringent taste only
- Constipation, concentrated urine
- Thirst
- Sensation of fragility in the foreleg and thigh
- Numbness and pricking pain in the bones
- Goose skin
- Stiffness of upper and lower limbs and back
- The skin, eyes, faeces and the urine are dark in colour

Causes for Vatha diseases

"என்னவே வாதந்தா னெண்பதாகும்
 மிகுத்திலே மனிதர்களுக் கெய்து மாறு
 பின்னவே பொந்தனையே சோரஞ் செய்து
 பெரியோர்கள் பிராமணரைத் தூஷ் ணித்தும்
 வன்னவே வச்சொத்திற் சோரஞ் செய்து
 மாதாபிதா குருவை மறந்து பேர்க்கும்
 கன்னவே வேதத்தை நிந்தைசெய்த பேர்க்குங்
 காயத்திற் கலந்திடுமே வாதந் தானே".

"தானென்ற கசப்போடு துவர்ப்பு ரைப்பு
 சாதகமாய் மிஞ்சுகினுஞ் சமைத்த வன்னம்
 ஆனென்ற வாரினது பொசித்த லாலும்
 ஆகாத் தேறலது குடித்த லாலும்
 பானென்ற பகலுறக்க மிராவி ழிப்பு

பட்டினியே மிக்வுறுதல் பார மெய்தல்
 தேனென்ற மொழியாற் மேற் சிந்தை யாகில்
 சீக்கிரமாய் வாதமது செனிக்குந் தானே"
 "ஆணான வரன்றனெளயே மதியாமாந்தர்
 அக்திபர தேசியர்கட் கன்ன மீயார்
 கோனான குரமொழியை மறந்த பேர்கள்
 கொலைகளொவு பொய்காம்ங் குறித்த பேர்க்கு
 ஊனான சடந்தன்னில் வாதம் வந்து
 உற்பவிக்கும் வேதத்தி லுண்மை தானே".

- யூகி வைத்திய சிந்தாமணி 800

According to *Yugi Vaithya Chinthamani* 800, those who are squandering money, insulting elders, abandoning or forgetting the parents, blaspheming the holy books, not respecting the divine gifts, having wickedness in their mind and those with day slumber and staying back at night will attract vali diseases. Increased intake of bitter taste, astringent, hot taste, increased intake of water, excessive starvation, sexual indulgence will produce vali diseases.

“தொழில் பொறுகைப்புக்கார்த் தல்துவர்த்தல் விஞ்சுகினுஞ்சோறும்
 பழையதாம் வரகு மற்றைப் பைந்தினை யருந்தினாலும்
 எழில்பெறப் பகலுறங்கி இரவினி லுறங்காதாலும்
 மழைநிகர் குழலி னாளே வாதங்கோ பிக்குங் காணே
 காணவே மிகவுண்டாலுங் கருதுபட் டினவிட்டா
 மானனை யார்கண் மோக மறக்கினு மிகுந்திட்டாலும்

ஆணவ மலங்கடம்மை யங்ஙனே விடாத தாலும்
 வானுதன் மடநல் லாளே வாதங்கோ பிக்குங் காணே
 பாரினிற் பயப்பட்டாலும் பலருடன் கோபித்தாலும்
 காரெனக் கருகி யோடிக் கழுமரத் துரத்தி னாலும்
 ஏர்பெறு தனது நெங்கின் மிகத்துக்க மடைந்திட்டாலும்
 பாரியகாற்றி னாளும் படரினும் வாதங் காணும்

காலங்கண் மாறி யுண்ணுங் காரியத் தாலுந் தண்ணீர்
 சாலவே யருந்தில் ணலுஞ் சத்தியி லுட்கார்ந் தாலும்
 கோலமாம் புளிப்பு நெய்மைக் குறைவற வருந்தி னாலும்
 வாலவார் முலைநல் லாளேவாதமுற் பவிக்குங் காணே

உற்பவித் தெழுமப் போதே யுயர்புறத் துடியைப் பற்றித்
தெற்பறக் குடைந்து நோவுஞ் செய்துமேல நோக்கு மாகில்

விற்பொலி நிதலி னாளே மேலிடுங் குணங்க டம்மில்
சொற்பெறு வாதம் தோன்றுமென் றறிந்து கொள்க
தெரிந்துமுன் சொன்ன வண்ணஞ் செய்யகா லடியைப் பற்றி
மாந்தனைப் போற்றி மிர்த்து மற்றுமேல் நோக்கு மாகில்
அரன்றனைத் துதியா மாந்த ரனுசரிக் கின்ற கோயில்
சரிந்திடுங் குழலாய் வாதங் குடிபுகுஞ் சாற்றுங் காலெ"

Pararasa sekaram also states the same that is also stated in *yugi vaithya chinthamani* like increased intake of *varagu*, *thinai*, ghee and *kaippu* taste, increased intake of food, increased fear, excessive anger, deep sadness, increased exposure to forcible flow of air, altered dietary timings etc

"கானடையாலச் சத்தாற் கடும்பசி யாற்கோ பத்தால்
ஊனமி லிரவில் வார்த்தை யுரம்பெற விரைக்க லாலாண்
ஆனபின் முனிவால் மாரு தடுத்திடுத் துரைக்குஞ் சொல்லால்
ஈனமி லிகழ்ச்சி யான விகல்வாத கோபங் காணும்".

- அங்காதி பாதம்.

According to *Angaathipatham*, increased starvation and increased anger will produce *Vali* disease.

"வெய்யில் நடக்கை யாலும் மிகத் தண்ணீர் குடிக்கை யாலும்
செய்யிழை மகளி னாளைச் சேர்ந்தனு பவிக்கை யாலும்
பயவெ உண்கை யாலும் பாகற்காய் தின்கை யாலும்
தையவெ வாத ரோகஞ் சனிக்குமென றறிந்து கொள்ளே".

- தேரையர் வாகடம்

According to *Theraiyar Vadagam*, walking under hot sun, increased sexual desire, increased intake of food and bitter gourds will produce *Vali* disease.

வாதம் வரலாறு

"அகலாத வாத பித்த சிலேற்பனங்கள்
அணுகும் வகை சொல்லுவோம் புலத்தியாகேள்
வாகான மலச்சிக்கு பெருந்தீனி யாலும்
வாளரசம் பலாப் பழங்கள் மற்றுமுள்ள
பாகமலை வாழை மொந்தன் வாழை
பகருகின்ற கல்வாழை மொத்தக் காயும்
சாகாத பறங்கிக் காயின் தண்டுடனே
வாழைத்தண் டாலுமாமே.

சுண்டாலு மெருமை மோர் தைரு மெண்ணை
தாக்கியுண்ட வகையாலும் உடனேபோகம்
கொண்டாலும் புளி மிகுதி கொண்டிட்டாலும்
கொள்ளுடனே பெரும்பயறு உழுந்துங்கூட்டி
தின்றாலும் மழையில் நின்று நனைந்திட்டாலும்
சேர்ந்தவனை தென்னங்கள்ளு சேர
உண்டாலும் கொளியரிசி யுமியினாலும்
உண்டப்பின்பு வுச்சு வெள்ள முண்டிட்டாலும்

வெள்ளமதில் வென்னீர் விட்டுக்கொள்கையாலும்
மீறு தையிர் புளிப்பு முன்னே கொள்கையாலும்
கள்ளம் பூங்குழல் மடவார் போகஞ் செய்யில்
கனி பூக்கள் பால் பழங்களுந்தினாலும்
முள்ளங்கி கடலை மொச்சை அவரை மொத்தல்
முருங்கை முத்தல் முப்பனம் பால் சோறு பொங்கல்
வெள்ளரிக்காய் செம்மரியும் உடும்பு கூட்டி
உண்டவித த்தால் வாதம் வருமென்றென்னே".

- மரு. எஸ். சிதம்பரதானுப்பிள்ளை,

(சித்த மருத்துவ நோய் வகைகளும் தன்மைகளும்)

According to Dr. S. Sidambarathanupillai text, those who are taking chilled food items, increased intake of salt, sour, pungent, bitter and astringent tasting foods, gaseous food products and those with excessive masturbation, daysleep, decreased sleep at night, excessive starvation, excitement, depression, control of vegangal means urination, defecation, cough, breathing, sneezing, vomiting, appetite, thirst, sleep and vaatham, horse riding will induce the *Vaatha* diseases.

- Once *vaatham* affects the skin to produce hot/cold sensation, fissure, loss of sensation, light weightedness, blacky discolouration of skin with pricking pain.
- *Vaatham* affects the blood to create the symptoms of inflammation, blacky discoloration of body, emaciation, loss of sensation, dizziness/giddiness, loss of appetite, stiffness and ulcer.
- *Vaatham* affects the muscle to induce the symptoms like dryness of skin, more pain like injury pain, tiredness, lymphangitis and dizziness.
- *Vaatham* affects the fat/bone marrow to generate the symptoms – joints and thigh pain, enthesitis pain with weakness, insomnia emaciation.

- *Vaatham* affects the semen to cause, premature ejaculation/ suppression of semen secretion, pallor of body, and more tiredness.
- *Vaatham* affects all over body, it will breed the symptoms of paraesthesia, itching, pricking pain, boring pain, fasciculation, cramps, tremors, loss of sensation, angulation of joints, functionless, loss of energy, diminution of sense organs function also.
- *Vaatham* affects the intestine and stomach to spawn the symptoms, scanty urination/defecation, testitis, haemorrhoids, abdomen pain, ulcer in alimentary tract, pain in abdomen and chest, burning sensation, dryness, cough, breathing discomfort, diarrhoea, pain in extremities and pelvic girdle.

Characteristics of *Vatham*

“வாதமே கதித்த போது வாயுவுமெழும்புங் கண்டீர்
வாதமே கதித்த போது வாயுவந்திடுஞ் சன்னி தோஷம்
வாதமே கதித்த போது வல்லடுன் மெலிந்து கொல்லும்”

- அகத்தியர் சிகிச்சா ரத்னதீபம்

According to *Agathiyar Sikicha Rathna Deepam* derangement in *Vali* will produce delirium and emaciation.

“வாதவீறு அன்னமீறங்காது கடுப்புண்டாம் வண்ணமுண்டாம்
மோதுகட்கு ரோகம் சுரமுண்டா மிருமலுமா முறங்காதென்றும்
ஓதரிய வாதமனலாகு நடுக்கமுண்டாம் பொருல்களயர்ந்த
தீதெனவே நரம்பித்து சந்துகள் தோறுங்கடக்குந் தினமுந்தானே”

- தேரையர் வாகடம்

According to *Theraiyar Vagadam*, deranged *Vali* produces loss of appetite, fever, cough, insomnia, shivering of the body, nerve disorders, and pain in all the joints.

வாதக்கூறு விருத்தம்

"சொல்லவே வாதமது மீறிற்றானால்
சோர்வடைந்து வாய்வினால் தேகமெங்கும்
மெல்லவே கைகால் எசதியுண்டாகும்
மெய்மடங்கும் நிமிரவொண்ணாதிமிருண்டாகும்
வெல்லவே பொருமும் வயிறுளைக்கும்
விரும்பியன்னஞ் சொல்லாது விந்து நஷ்டம்
கொல்லவெ நாப்புளிக்கும் கழிச்சல்லுண்டாம்
கூறினார் மலையமுனி கூறினாரே
வாதமீறினால் வாயுவினால் தேகமெல்லாங்
குத்துங் கால்கை சந்து பொருத்துக்கள் உளையும்
கால்கையொரு பக்கத்தில் முடங்கும் குனிந்தால்

நிமிர்வொட்டாது திமிருண்டாகும் உடல் பொருமும்
குடல்புரட்டும் அன்னச் சுருக்கும், வயிறு மந்திக்கும்
பொருமும், மலசலங்கட்டும் அபானஞ் சுருங்கும்
நாவு புளிக்குந் தாது நட்டமாகுங் கழிச்சலுண்டாகும்".

According to *Vatha Kooru Virutham*, deranged *Vali* produces fatigue, lethargy, loss of appetite, abdominal discomfort, diarrhea, constipation, cough, insomnia and joint pain.

ரோகிகளின் தேகமுதலான குறிகள்

"அறைந்தோம் வாதரோகியுடல் அலர்கண்முகமும் பல்மலமும்
நிறைந்த விழியில் நீர்வடியும் நீண்ட நாயு கறுத்திடயு
திறைந்த முள்ளாய் தானிருக்கும் சிறுநீர் பொருமிகறுத்துவரு
முறைந்த நீருங் கறுகறுத்து முறையாய் ரோக முண்டாமே".

Physical nature of *Vatham* constitution is dark coloured face, eye, teeth and stool.

நோய் வரும் வழி

காலவியல்பு (Environmental factors):

"வாதவர்த் தன காலமேதோ வென்னில்
மருவுகின்ற ஆனி கற்கட மாதம்
ஆதனைப் பசியோடு கார்த்திகை தன்னில்
ஆடருமே மற்ற மாதங்கள் தன்னில்
போகவே சிமிக்கின்ற காலமாகும்"

- யூகி வைத்திய சிந்தாமணி

Vali diseases will be precipitated in the months from *Aani* to *Karthigai* (June to December)

"பதுமத்தைப் பூக்க வைக்கும் பானுமிகக் காயும்
முதுவேனி லிற்பு விறநீர் முற்றும்-கதுமென
வற்றும் கபமிக்கும் வாயுமிகும் வாழ்மாந்தக்
குற்ற நலிக் கேதிதென் றோது".

In *Muthuvenil kaalam*(late summer), the increased solar radiation increases the evaporation of water content in the world, at the same time these similar actions on the body produces increased production of mucous for digestion and develop the derangement of *Vali* disease

உணவு வகைகள் (Diet)

"வளி தரு காய்கிழங்கு வரைவிலா தமில்ல கோழை
புளி தயிர் போன்மிக்கு முறையிலா வுண்டி கோடல்
குளிர்ந்தரு வளியிற் றேகங் குனிப்புற வல்வல் பெண்டிர்
குளிதரு முயக்கம் பெற்றோர் கடிசெயல் கருவியாமல்"

- சபாபதி கையேடு

According to *Sababathi Kaiyedu*, increased intake of tubers, increased exposure to wind, living in higher altitudes, increased sexual desire, and increased exposure to chill weather will aggravate *Vali* diseases

"தொழில் பெறு கைப்புக்கார்த்தல் துவர்த்தல் விஞ்சுகினுஞ்சோறும்
பழையதாம் வரகு மற்றைப் பைந்தினையருந்தினாலும்
எழில் பெறப் பகலுறங்கி ட்ரவினிலுறங்காதாலும்
மழை நிகா குழலினாலே வாதங்கோ பிக்குங்கானே"

- பரராச சேகரம்

According to *Pararasa Sekeram*, increased intake of bitter taste, astringents, sour tastes, increased intake of old cooked rice, day slumber and staying back at night will increase *Vali*.

பழக்க வழக்கங்கள் (Habits)

"வெய்யிலில் நடைக்கையாலும் மிகத்தண்ணீர் குடிக்கையாலும்
செய்யிழை மகளினரைச் சேர்ந்தனுப விக்கையாலும்
பையனே உண்மையாலும் பாகற்காய் தின்கையாலும்
தையலே வாதரோகம் சனிக்குமென் றறிந்து கொள்ளே".

- தேரையர் வாகடம்

Excessive walking in hot sun, excessive intake of water bitter gourd increased sexual desire, may play a role in disturbing the normal functions of *Vali*.

FUNCTIONS OF DERANGED VALI (Altered functions of *Vali*)

"வாதமே கதித்த போது வாயுவு மெழும்
வாதமே யிரும லாகித் தொடர்ந்திடுஞ் சன்னி வாதம்
பேதமே செய்கி ராணி பெறுவயிறுதா தோஷம்
போதவே தோன்று மென்று பொருந்தவே முனிவர் சொன்னார்
வாதமே முதலா நாடி வாதமே தூல காயம்
வாதமே பெலவா னாகும் யழலை வேண்டும்
வாதமே மந்தம் பற்றும் வாதமே சீத காலம்
வாதமே யுடற்கு ளிர்ச்சி வாதமே மூலமாமே.
வாதமே வாயு வாகும் வாதமே காலிற் சேரும்

வாதமே நன்னி யோடு மருவிடில் வலியுமுண்டாம்
வாதமே விடியப் பத்து வாதமே சாயங் காலம்
வாதமே புளிப்பு வாங்கும் வாதமுந் தளர்ச்சி காலம்"

- பரராச சேகரம்

According to *Pararasa sekaram* the deranged *Vali* will produce cough, delirium, diarrhoea and abdominal distension.

"வாதவீறு அன்ன மிறங்காது கடுப்புண்டாகும் வண்ணமுண்டாம்
மோது கட்டு ரோகம் சுரமுண்டாம் மிருமலுமா முறங்காதென்றும்"

- தேரையர் வாகடம்

Rendering to the Sage Theraiyar, the deranged *Vali* produces reduced appetite, fever, cough and insomnia.

"செய்யவே வாதத்தால் வருநோய் சொல்வேன்
சிக்கிமல சலங்கடுத்த லுளைதல் குத்தல்
நையவே கண்கறுத்துக் கண்ணீர் வீழ்ந்து
நாச்சிதறி வெடித்து வாய் திக்கி பேசல்
மெய்தடித்து மிகநோதல் பொருமல் கொள்ளல்
விந்துவலி தான் குறைந்து மந்தமாதல்
பையவே குளிர்ந்திருத லான வெல்லாம்
பலவாகக் கண்டறிந்து சிந்திப்பாயே".

- அங்காதி பாதம்

"பாங்கான வாதந்தான் மறுமாகிற்
பருவயிறு சுவாசமுடன் குத்துக்கோழை
நீங்காத பிடிப்புளைவு வாயு தொந்தம்
நீர்வெடித்துப் பாய்தல் மந்தம் விடமிப்பாதல்
தூங்குசன்னி வாதசுர மதனி ற் தோடம்
தொகுத்த கிரா ணிக்கழிச்ச லுதர தோடம்
வாங்குபல வலிகுளிர்ச்சி குன்மவாத
மலசலங்கட் டிடல்வாத வந்திப்பாமே".

- அங்காதி பாதம்

According to *Angaathipatham* the deranged *Vali* produces constipation, scanty micturition and increased lacrimation, with darkening of eyes, fissures in tongue, dysarthria, flatulence, abdominal distension, and cough with expectoration, indigestion and diarrhoea.

“காணப்பா வாதமீறில் கால்கைகள் பொருந்து நோவும்
பூணப்பா குடல்புரட்டும் மலசலம் பொருமிக் கட்டும்
ஊணப்பா குதமிறுக்கும் வியர்வையும் வேர்க்கும் தானே”.

- அகத்தியர் வைத்திய காவியம் 1500

According to *Agathiyar vaithiya kaaviyam*, the deranged *Vali* produces pain in the joints of the hands and legs, flatulence, constipation, scanty micturition, fever with rigor, generalized body pain and increased sweating.

“தக்க வாயு கோபித்ததால் சந்துவுளைந்து தலைநோவா
மிக்க மூரி கொட்டாவி விட்டங் கெரியு மலங்கட்டும்
ஒக்க நரம்பு தான்முடங்கு முலர்ந்து வாய்நீ ருறிவரும்
மிக்க குளிரும் நடுக்கமுமாம் மேனி குன்றி வருங்கானே”.

- தேரையர் வாகடம்

According to *Theraiyar Vagadam*, the deranged *Vatham* produces pain in the joints, headache, constipation, increased salivation, chills with rigor, loss of normal complexion.

“ஆகங்கறுக்குநோ யாகந் துடிக்கும்
ஆறாத்தீ யென்னமெய் யேகங் கொதிக்கும்
ஆருமெய் வியர்தியிர் வீமந்தம் வாய்மூச்சு
ஆகுமேயிது வாதமேலினிது”

- தேரையர் கரிசல்

According to *Theraiyar karisal*, the deranged *vatham* produces blackish discoloration of body, feverishness, increased sweating, indigestion and dyspnea.

“மேவியவாதஞ் செய்யுங் குணந்தனை வியம்பக் கேளாய்
தாவியே வயிறு தந்தஞ் சந்துகள் பொருத்து நோவாஞ்
சீவிய தாதுநாசஞ் செறுத்துடன் சிறுநீர் வீழுங்
காவியங் கண்ணி னாளே மலமது கருகிவீழும்”.

- அகத்தியர் வாத காவியம் 1000

According to *Agathiyar vatha kaaviyam* and *kannusamiyam* the deranged *Vatham* produces abdominal discomfort, pain in joints, oliguria, dysuria, constipation and flatulence.

KINDS OF VATHAM

“முறைமையாம் பிராணனோ டபானன் வியானன்
மூர்க்கமா முதானனோடு சமான னாகன்
திறமையாய் கூர்மனோடு கிருக ரன்றான்
தேவதத்த னொடுதனஞ் சயனு மாகும்”.

- யூகி வைத்திய சிந்தாமணி 800

Even though the *vatham* is a single functional unit; it has got different forms and actions.

TYPES OF VATHAM

- *Praanan* (Respiratory functions)
- *Abaanan* (Excretory functions)
- *Viyaanan* (perfusion of oxygen & nutrients)
- *Udhaanan* (Reverse peristalsis)
- *Samaanan* (Homeostatic functions)
- *Naagan* (Higher intellectual function)
- *Koorman* (Constrictory functions)
- *Kirukaran* (Secretory functions)
- *Devathathan* (Mental & physical sluggishness)
- *Dhananjeyan* (BLOATER of the body)

ENUMERATION OF VATHAM TYPES IN CLASSICAL LITERATURE

S.No	NAME OF THE BOOKS	TYPES OF VATHAM
1	Yugi vaithiya chinthamani	80
2	Astanga sangiragam	85
3	Noi Naadal Noi Mudal Naadal Vol II	81
4	Theraiya Vaagadam	81
5	Dhanvantri vaithiyam	81
6	Jeevarakshamirtham	80
7	Agathiyar-2000	80
8	Bohar vaithiyam	84
9	Agathiyar kurunaadi	84
10	Agathiyar rathna churukkam-500	84
11	Pararasa sekaram	80
12	Aviyalikkum amutha murai churukkam diseases according to various parts of the body	80

Table 5.1 Enumeration of *Vatham* types in Classical literature

6. PATHOGENESIS OF KARNAAVARTHAM

கர்ணாவர்த்தம்

வர்த்தமாய் மார்போடு பிடரி காது
வலித்துமே யாப்புகொண்ட டித்தாற் போலக்
குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்
கோணியே கழுத்துங்கா துங்க னக்கும்
அற்றமா யுச்சியிலு நெற்றி தன்னில்
அடிக்கடிக்கு நோயாகி யசதி யாகும்
பற்றமாய்ப் பசியின்றி உரக்க மின்றேல்
பார கர்ணாவர்த்தமென்றே பகர லாமே

- யூகி வைத்திய சிந்தாமணி 800.

EPIDEMIOLOGY:

Karnaavartham occurs more frequently with increasing age and more common in women and men.

The *Elavenil* (Early Summer), *Mudhuvenil* (Late Summer), *Munpani* (Early Dew season), *Pinpani* (Late Dew Season) aggravate the disease.

Kurinchi (Hilly tract) and *Mullai* (Sylvan tract) reportedly higher compared to other areas.

Thathuvas affected in *Karnaavartham*

KANMENTHIRIYAM

Panchaboothangal forming the basic constituents of these *kanmenthiriyam* become deranged. Commonly affected *Kanmenthiriyam* is *Kai* (upper limbs)

GNANENTHIRIYAM

Panchaboothangal forming the basic constituents of these *Gnanenthiriyam* become deranged. Commonly affected *Gnanenthiriyam* is *Mei* (skin).

UDAL THATHUKKAL

Panchaboothangal forming the basic constituents of Seven *Udal thathukkal* (*Saaram, Senneer, Oon, Kozhuppu, Enbu, Moolai and Sukkilam*) get deranged. Commonly affected *Udal thathukkal* in *karnaavartham* are *Saaram, Oon* and *Enbu*.

IYMBOTHAMS (FIVE ELEMENTS)

Mann (Earth) – Since bones are made up of *Mann* bootham, it is affected in degeneration of bones.

Neer (Water) – It is affected in disc related problems i.e. disc bulge, disc protrusion, desiccation etc.

IYMPULANGAL (FUNCTIONS OF PENTA SENSORS)

Thoduthal (Touch) - Boring pain present in Ears, stabbing pain present in chest and occipital region of head.

ANDHAKARANAM (STATIONS OF SOUL)

Mannam – Depression due to illness.

DASAVAAYU

Viyanan – pain in chest, occipital head, forehead

Samaanan – Derangement of other *Vaayus*

Devadhathan – Tiredness

AADHARAM (STATIONS OF SOUL)

Visuthi – pain in neck

MANDALAM

Chandira Mandalam – Pain in neck

Sooriya Mandalam – Pain in chest region

DERANGED UYIR THATHUKKAL (HUMOURAL OR TRIDOSHA PATHOLOGY)

VATHAM affected in *Karnaavartham*: Commonly affected *vatham* among the *Dhasavayukkal* (Ten *vaathams*) are *Viyaanan*, *Samanan*, *Abaanan*, *Naagan* and *devadathan*. Derangement of *Viyaanan* (vaayu+earth) leads to pain in the cervical and occipital region, neck stiffness, pain along the ears, chest discomfort. Derangement of *Samaanan* leads to imbalance of function of other *vaayus*. Derangement of *Naagan* leads to mental depression. Derangement of *devadathan* leads to tiredness.

PITHAM affected in *karnaavartham*: Commonly affected *pitham* is *Saathaga* *pitham*. Derangement of *Saathagapitham* produces features like mental depression and difficulty in performing regular activities.

KABAM affected in *karnaavartham*: Commonly affected *kabam* among the five *kabam* are, *Santhigam* and *Avalambagam*. Derangement of *Avalambagam* leads to imbalance of functions of others too. Derangement of *Santhigam* produces pain and stiffness in joints.

PATHINAANGU VEGANGAL (NATURAL URGES/ REFLEXES)

Pasi – Dizziness, Loss of Appetite

Thookam – Sleeplessness

Suvaasam – Chest discomfort

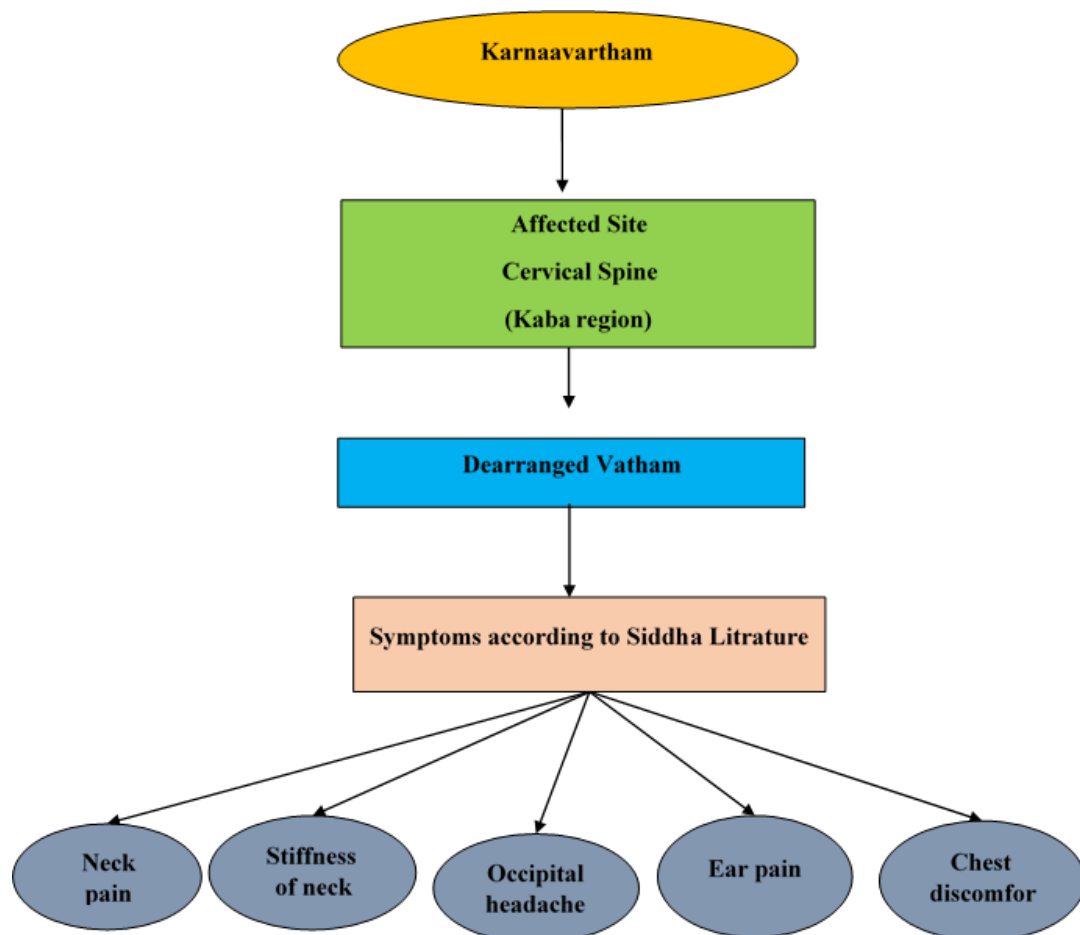


Figure 6.1- Pathogenesis

7. DIFFERENTIAL DIAGNOSIS

KARNAAVARTHAM

வர்த்தமாய் மார்போடு பிடரி காது
வலித்துமே யாப்புகொண்ட டித்தாற் போலக்
குற்றமாய் காதிரண்டுங் குடைச்ச லாகும்
கோணியே கழுத்துங்கா துங்க னக்கும்
அற்றமா யுச்சியிலு நெற்றி தன்னில்
அடிக்கடிக்கு நோயாகி யசதி யாகும்
பற்றமாய்ப் பசியின்றி உரக்க மின்றேல்
பார கர்ணாவர்த்தமென்றே பகர லாமே

- யூகி வைத்திய சிந்தாமணி 800

DIFFERENTIAL DIAGNOSIS

In medicine, a differential diagnosis is the distinguishing of a particular disease or condition from others that present similar clinical features. Differential diagnostic procedures are used by physicians and other trained medical professionals to diagnose the specific disease in a patient, or atleast, to eliminate any imminently life-threatening conditions.

More generally, a differential diagnostic procedure is a systematic diagnostic method used to identify the presence of disease entity where multiple alternatives are possible. Differential diagnosis can be regarded as implementing aspects of the hypothetic - deductive method, in the sense that the potential presence of candidate diseases or conditions can be viewed as hypothesis that physicians further determine as being true or false.

NOI KANIPPU VIVADHAM (DIFFERENTIAL DIAGNOSIS) OF KARNAAVARTHAM

1. Kumba vatham
2. Kazhuththu Vatham
3. Karnasoolai
4. Vathathalai Nookkaadu

Kumba vatham

“நவிலவே தோள்மீது கரகத்தின் மீதும்
நலிந்து மெத்த வாகியே நசவுண்டாகும்
கவிலவே கன்னமொடு நயனந் தானும்

கழுத்துமே விறுவிறுப்பு மெரிவுங் காணும்
துவிலவே துடிப்பாகுஞ் சிரசு தன்னிற்
சுழற்சியே நாபிக்கிழ் வலியு முண்டாம்
அவிலவே யடிநாக்கி லழன்று காணும்
அலருமே வரு கும்பவாதந் தானே”

- யூகி வைத்திய சிந்தாமணி 800

Clinical Features

- Burning sensation in shoulder and upper limbs
- Burning sensation in the cheek and the eyes
- Twitching over the scalp
- Spasmodic pain in the lower abdomen
- Glossitis

Similarities between Karnaavartham and Kumbavatham

S.No	Kumbavatham	Karnaavartham
1	கழுத்துமே விறுவிறுப்பு – neck stiffness	கழுத்துங்கா துங்க னக்கும் – Stiffness of neck and Ear
2	துடிப்பாகுஞ் சிரசு – headache	யுச்சியிலு நெற்றி தன்னில் அடிக்கடிக்கு நோயாகி - Headache

Table 7.1

Dissimilarities between Karnaavartham and Kumbavatham

S.No	Kumbavatham	Karnaavartham
1	தோள்மீது கரகத்தின் மீதும் நலிந்து மெத்த வாகியே நசவுண்டாகும் Pain in the Shoulder and arm	வர்த்தமாய் மார்போடு பிடரி காது வலித்துமே – Pain in Chest, Occipital region of Head and Ear
2	நாபிக்கிழ் வலியு முண்டாம் அவிலவே யடிநாக்கி லழன்று காணும் Spasmodic pain in the lower abdomen Glossitis	பற்றமாய்ப் பசியின்றி உரக்க மின்றேல் – Loss of appetite and Sleeplessness

Table 7.2

Kazhuththu Vatham

“கழுத்தை திருப்பாதே பிடித்து

கதிரிட்டு உளைந்தாற் போலே காணும்

செழித்தே நரம்பு தடித்து நிற்கும்

சீராக அசைக்க வொட்டாது

கழுத்தே பிடித்து இராப்பகலும்

இடரே செய்யும் கழுத்து வாதம்

வழுத்தும் குணங்கள் தரணி தன்னில்

வசையாய் அறிவீர் பண்டிதரே”

– வாதநோய் மருத்துவம்

Clinical Features

- Stiffness and restriction of movements of the neck,
- Burning pain in neck
- Thickening of nerves in neck
- Symptoms continuing day and night.

Similarities between Karnaavartham and Kazhuthuvatham

S.No	Kazhuthuvatham	Karnaavartham
1	“கழுத்தை திருப்பாதே பிடித்து – stiffness of neck	கழுத்துங்கா துங்க னக்கும் – stiffness of neck
2	கழுத்தே பிடித்து இராப்பகலும் இடரே செய்யும் – neck pain	

Table 7.3

Dissimilarities between Karnaavartham and Kazhuthuvatham

S.No	Kazhuthuvatham	Karnaavartham
1	நரம்பு தடித்து நிற்கும் சீராக அசைக்க வொட்டாது – thickness of nerves in neck	வர்த்தமாய் மார்போடு பிடரி காது வலித்துமே – Pain in Chest, Occipital region of Head and Ear
2	இராப்பகலும் இடரே செய்யும் கழுத்து வாதம் – symptoms continuing day and night	குற்றமாய் காதிரண்டுங் குடைச்ச லாகும் – boring pain in ears

Table 7.4

Karnasoolai

செய்கையாஞ் செவித்துவாரந் தன்னி னின்று

சிக்கெனவே குச்சிகொண்டுகுடைந்தாற் போலச்

சைகையாய் நோவுண்டாய்ச் சலிக்குஞ் சிந்தை

சலத்தின்மேல் மனதுவாய்த்து தாக முண்டாய்

வைகையாய் வயிறுதனில் மந்த முண்டாய்

மயக்கமாய் மனதுதனிற் பயமு முண்டாய்க்

கைகையாய் வாய்கசந்து புளிப்பு முண்டாகும்

கர்ணசூலை யின்குணத்தைக் காணுங்காலே

- யூகி வைத்திய சிந்தாமணி 800

Similarities between Karnaavartham and Karnasoolai

S.No	Karnasoolai	Karnaavartham
1	செவித்துவாரந் தன்னி னின்று சிக்கெனவே குச்சிகொண்டுகுடைந்தாற் போலச் – Boring pain in the ear	குற்றமாய் காதிரண்டுங் குடைச்ச லாகும் – boring pain in ears

Table 7.5

Dissimilarities between Karnaavartham and Karnasoolai

S.No	Karnasoolai	Karnaavartham
1	சைகையாய் நோவுண்டாய்ச் சலிக்குஞ் சிந்தை - Mental Disturbances	அற்றமா யுச்சியிலு நெற்றி தன்னில் அடிக்கடிக்கு நோயாகி யசதி யாகும் – headache and tiredness
2	வைகையாய் வயிறுதனில் மந்த முண்டாய் – abdominal fullness	பற்றமாய்ப் பசியின்றி உரக்க மின்றேல் – Loss of appetite and Sleeplessness

Table 7.6

Vathathalai Nookkaadu

சாத்தியமாம் வாதத்தின்று லைநோக் காடு
தண்மையாம் பிடரிபற்றித் தலைநோவுண்டாம்
காத்திரமாய் காதிரண்டுந் தான்வ லித்துக்
கதுப்படியுங் குறட்டோடு மூக்கு உச்சி
நேத்தியுமாய் நெற்றியொடு நோவு மாகி
நெருக்கா னவாப்படித்தாற் போலே குற்றும்
மாத்தியமாய் மனக்கிலே சப்ப டுத்தும்
வாதத்தின் றலைநோவு வண்மை தானே
- யூகி வைத்திய சிந்தாமணி 800

Similarities between Karnaavartham and Vathathalai Nookkaadu

S.No	Vathathalai Nookkaadu	Karnaavartham
1	உச்சி நேத்தியுமாய் நெற்றியொடு நோவு மாகி - headache	அற்றமா யுச்சியிலு நெற்றி தன்னில் அடிக்கடிக்கு நோயாகி யசதி யாகும் – headache and tiredness
2	பிடரிபற்றித் தலைநோவுண்டாம் காத்திரமாய் காதிரண்டுந் தான்வ லித்துக் – pain in ear and occipital region	மார்போடு பிடரி காது வலித்துமே – pain in chest, occipital region and ear

Table 7.7

Dissimilarities between Karnaavartham and Vathathalai Nookkaadu

S.No	Vathathalai Nookkaadu	Karnaavartham
1	மாத்தியமாய் மனக்கிலே சப்ப டுத்தும் – Depression	பற்றமாய்ப் பசியின்றி உரக்க மின்றேல் Loss of appetite and Sleep disturbances

Table 7.8

THE ANATOMY

The vertebral column:

The Vertebral column which lodges and protects the spinal cord, its meninges and the continuation of the central nervous system lies in the dorsum of the body. It forms a pillar which contains 33 segments and lengths about 70 cm in an average male and 60 cm in a female. It supports the body weight and transmits it to the ground through the lower limbs.

The segments can be divided into Cervical, Thoracic, Lumbar, Sacral and Coccygeal segments. The Cervical segments has seven Vertebral bones, Thoracic twelve, Lumbar five, Sacral five and Coccygeal four. All are separate bone except the Sacrum and Coccyx.

The curvatures of the Spine:

There are four curvatures in the Vertebral column. They are two Primary and two Secondary curvatures.

The primary curvatures are Thoracic and Sacral. They are convex posteriorly. The secondary curvatures are the Cervical and Lumbar. They are anteriorly convex. The Cervical curvatures becomes prominent when the child is able to hold its head up and fit upright. The Lumbar Curvature appears by 12-18 months after the child starts walking. A slight lateral curvature is seen in the Upper Thoracic region. It is curved to the right in right handed persons and vice versa.

The General features of the vertebrae:

The Vertebrae can be divided into vertebral body and a dorsal vertebral arch. The Vertebral Arch has 2 Pedicles, 7 Process and 2 Laminae. Pedicles are thick bars projecting backward from the body. The Laminae are vertical plate like structures, fuses together to form spinous process. The Spinous process projects downwards and is the lever for the muscles. The articular process are four in number, bearing the articular facets and articulate with the adjacent vertebrae. Transverse processes project laterally from the junction of pedicle and laminae. In thoracic region they articulate with ribs.

Joints of the vertebral column:

The vertebrae from the 2nd cervical to 1st sacral are articulated to one another by a series of cartilaginous joints between vertebral bodies and a series of synovial joints

between the vertebral arches. The vertebral bodies are united by anterior, posterior, longitudinal ligaments and by central vertebral disc of fibrocartilage

Movements of the vertebral column:

The greater thickness of the discs in the cervical and lumbar regions as compared with the thoracic region is associated with the greater individual range of movements occurring in those region.

Flexion (or) forward bending, extension (or) backward bending, lateral flexion and the rotation are possible in vertebral column.

Uses:

They absorb shock and allow easy movements of the vertebral column.

The Cervical Vertebrae:



Figure 8.1 Cervical Vertebra

The Cervical segment of Vertebral column contains 7 Vertebrae. The first, second and the seventh are atypical vertebrae and the third to sixth are typical. They are smaller and delicate than the Thoracic and Lumbar vertebrae. All the cervical vertebrae have a foramen in the transverse process known as Foramen transversarium. This is identical in all the cervical vertebrae.

Typical Cervical Vertebrae:

1. BODY:

It is small and oval. It's superior surface is concave transversely with upward projecting lips on each side and its inferior surface is Saddle shaped, convex from side to side and concave from before backwards.

2. VERTEBRAL FORAMEN:

It is larger than the body and triangular in shape.

3. VERTEBRAL ARCH:

i) Pedicle:

These are short and directed outwards and backwards from the middle of posterolateral parts of the body and they form the posteromedial wall of the foramen transversarium..

ii) Laminae:

These are long and narrow, being thinner above than below.

iii) Articular facets:

The superior and inferior articular process form the articular pillars which project laterally at the junction of the pedicle and the lamina. The superior articular facets are flat and directed backwards and upwards. The inferior articular facets are also flat but directed forwards and downwards.

iv) The spine:

It is short and bifid.

v) Foramen Transversarium:

It transmits the vertebral artery, vertebral vein and sympathetic plexus.

The Atypical Cervical Vertebrae:

1. Atlas:

It is the first Cervical Vertebrae which lodges the skull. It has no body and spine. It has anterior and posterior arch, right and left lateral masses and transverse processes. The Anterior arch bears an anterior tubercle in the anterior aspect. Its posterior aspect bears an oval facet which articulates with dens.

2. The Axis:

The Axis has a peg like projection in its upper part of the body known as the Dens (or) Odontoid process. It has circular facet anteriorly with atlas. There are two articular facets on each side of the dens on the upper surface of the body. The laminae are thick.

The spine is large and bifid. The transverse process is small and possesses a tubercle in its tip.

3. The seventh cervical vertebrae:

It is also known as the “Vertebral Prominent”. The transverse process does not possess anterior tubercle. The foramen transversarium is small (or) absent. It transmits accessory vertebral vein only. The spine is long.

Blood supply of Vertebral Column:

The vertebrae and the longitudinal muscles attached to them are supplied by segmental arteries. The arteries give multiple small branches to the vertebral bodies. The extensor muscles of the neck are supplied by the occipital, the deep cervical and the transverse cervical arteries.

Venous Drainage:

The Internal vertebral venous plexus lie within the vertebral canal, but outside the spinal dura. It receives tributaries from

- i) The vertebrae through the basilo vertebral veins.
- ii) The meninges and the spinal cord.

The internal vertebral venous plexus is drained by the intervertebral veins, which pass out through the inter vertebral foramen. Here they are joined by the tributaries from the external vertebral and sacral veins. The internal venous plexus communicates with the occipital and basilar veins through the foramen magnum.

MOVEMENTS OF CERVICAL SPINE

Flexion/Extension: Total extension is relatively less than total flexion. Total flexion possible is 53 degrees and total extension is 38 degrees with range of motion in flexion/extension in normal adults below the age of 50 years being 130 degrees in males and slightly more in females.

Lateral bending: There is little bending in the upper cervical spine. All the lateral bending is done in the lower cervical spine. The range of motion in males 88 degrees and in females about five degrees more than males in normal adults.

Axial Rotation: Axial rotation to the tune of 24 degrees is possible at occipital /C1 junction and 46 degrees at C1/C2 junction. The lower cervical spine is locked in flexion and open in extension. There is no rotation in flexion but in neutral position or extension it can give 14 degrees rotation.

Cervical Plexus¹³

These are formed by the anterior rami of upper four cervical nerves. Each nerve root divides into ascending and descending branch of another nerve except the ramus of first cervical root, and forms the plexus. The important branches are, transverse cutaneous nerve which supplies the skin in front of the neck and phrenic nerve which is a motor nerve to the Diaphragm.

The cervical plexus gives off a large number of branches as follows:

Cutaneous branches

The lesser occipital nerve arises from the second cervical nerve.

The greater auricular nerve and the transverse cutaneous nerve of the neck arise from the second and third nerves.

The supraclavicular nerves arise from the third and fourth nerves.

Muscular branches

Branches to prevertebral muscles – the rectus capitis lateralis and the rectus capitis anterior receive branches from C1. the longus capitis receives branches C1, C2 and C3. The longus coli receives branches from C2, C3 and C4.

Branches to muscles forming boundaries of the posterior triangle – the sternocleidomastoid receives a branch from C2. The levator scapulae, the scalenus medius and the trapezius receive branches from C3 and C4.

The phrenic nerve arises by separate roots from C3, C4 and C5.

Branches to infrahyoid muscles reach them through the hypoglossal nerve and the ansa cervicalis.

Nerves of cervical Spine:

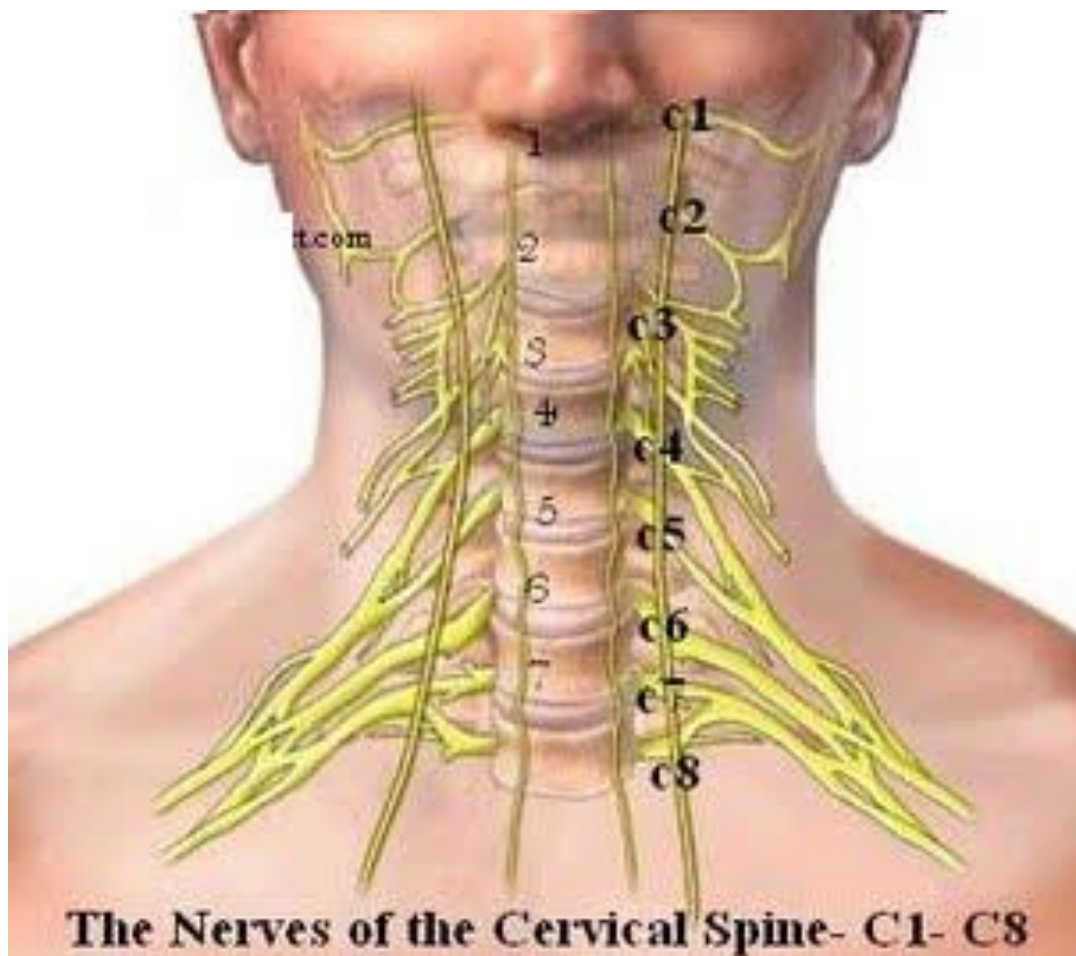


Figure 8.2

Cervical Radiculopathy

Cervical radiculopathy is a disorder of a cervical spinal nerve root and caused most commonly by a cervical disc herniation or other space occupying lesions, resulting in nerve root inflammation or impingement or both. Compression of a nerve root may be due to several causes. In young persons soft disc herniations are more common. The herniation is posterolateral near the nerve root foramen and a free disc fragment can be frequently found. Vertebral osteophytes and occasionally osteophytes from the superior articular process along with reduced disc height, may result in foraminal narrowing and radiculopathy.¹⁵

Nerve root	Disc level	Symptoms
C3	C2-C3	Pain and numbness in the back of the neck, mastoid process and pinna of the ear.

C4	C3-C4	Pain and numbness in the back of neck, levator scapulae and anterior chest.
C5	C4-C5	Pain in the neck, tip of the shoulder, anterior arm, numbness over middle of the body, deltoid muscle.
C6	C5-C6	Pain in the neck, shoulder medial border of the scapula, lateral arm, dorsal forearm, numbness in the tip of thumb or on the hand over first dorsal interosseus muscle.
C7	C6-C7	Pain in the neck, shoulder medial border of the scapula, lateral arm, dorsal forearm, sensory changes in index and middle fingers.
C8	C7-T1	Pain in the neck, medial border of scapula, medial aspect of arm and forearm. Sensory changes in the ring and little fingers.

Table 8.1

CERVICAL SPONDYLOSIS

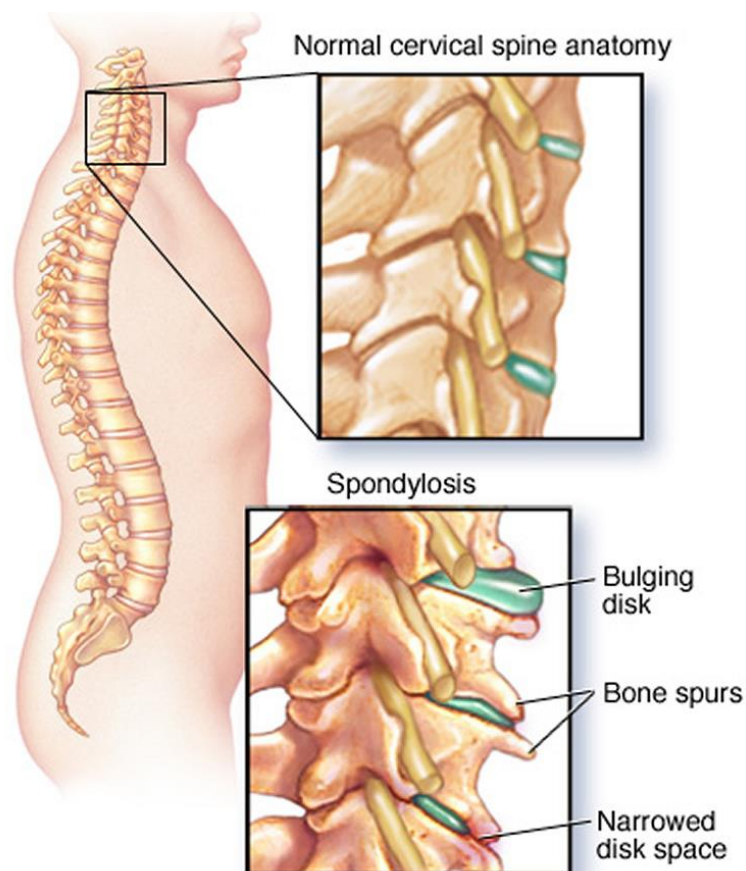


Figure 8.3 Cervical Spondylosis

DEFINITION:

Cervical spondylosis is also called cervical osteoarthritis. It is a condition involving changes to the bones, discs and joints of the neck. Cervical spondylosis is a disorder in which there is abnormal wear on the cartilage and bones of the neck.

CAUSES:

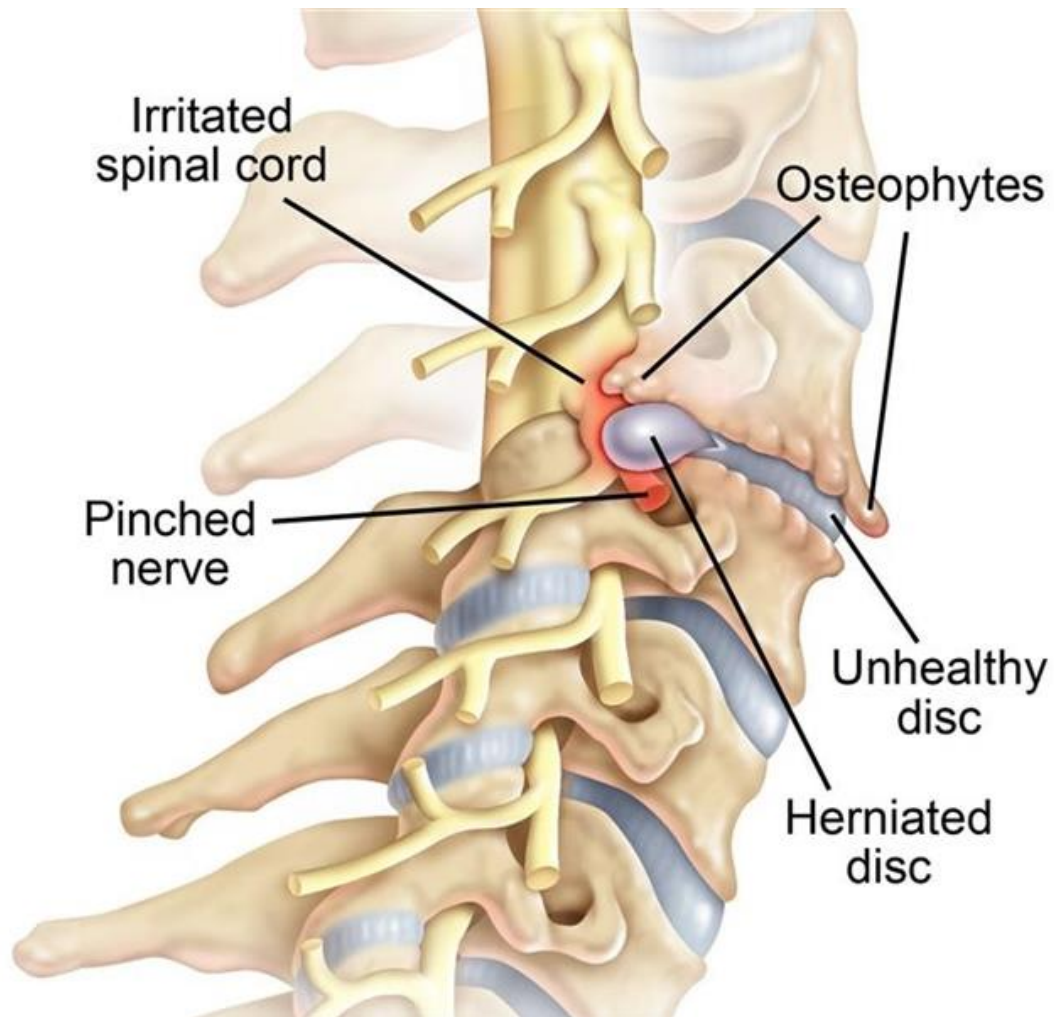


Figure 8.4 causes of Cervical Spondylosis

Cervical spondylosis is caused by chronic wear on the cervical spine. This includes the disks or cushions between the neck vertebrae and the joints between the bones of the cervical spine. Very stiff muscles in the cervical region can, over the years, cause a kinking of the cervical spine to the front. Bad posture and lack of exercise to the cervical region are the key factors which are responsible in a majority of the patients. Lying in bed with several pillows propping up the neck into an unnatural position can affect the alignment of the cervical column, causing a forward inclination. Reclining on sofas with the spine hunched and the neck pushed forward is bad for cervical alignment.

Hunching over the computer for many hours, occupational hazards such as those of a writer, an illustrator or a painter, all cause the spine to be bent forward all the time. Positioning the body to the same side during sleep, with the shoulder muscles and the neck compressed, also develops faulty alignment in the cervical spine. In due course the spine is bent, the front surface of the bones and disc are excessively pressurized and damage occurs. People in certain occupations or who perform specific activities such as gymnasts or other athletes may put more stress on their necks.

SYMPTOMS:

Neck stiffness and pain. Headache that may originate in the neck. Pain in the shoulder or arms. Inability to fully turn the head or bend the neck. Grinding noise or sensation when the neck is turned

Symptoms of cervical Spondylosis with myelopathy include, Tingling, numbness, and/or weakness in the arms, hands, legs or feet's. Lack of coordination and difficulty walking, abnormal reflexes, Muscle spasms, Loss of control over bladder and bowel (incontinence)

The clinician must determine whether there is evidence of nerve root compression, termed radiculopathy, versus spinal cord compression, termed myelopathy. Cervical spondylosis with changes within the disk may cause loss of height with posterior bulging of the disk into the spinal canal and foramen. As the disk collapses, the posterior soft tissue structures, including the ligamentum flavum and the facet joint capsule, fold inward, further compromising the spinal canal and neural foramen. Pressure that once was dispersed throughout the disk is transferred to the facet joints and uncinat processes, resulting in the development of bone overgrowth or osteophytes and causing extrinsic pressure on the nerve root or spinal cord.

In radiculopathy, mechanical distortion of the nerve leads to increased vascular permeability, resulting in chronic edema and eventually fibrosis. This causes hypersensitivity of the nerve root with an inflammatory response mediated by chemicals released from the cell bodies of sensory neurons and cervical disks. Compression of the dorsal root ganglion is felt to be especially important in producing radicular pain. Clinically, this presents with pain in a dermatomal distribution; dermatomes for the higher cervical nerve roots, including C3 and C4, are found along the posterior scapula, and the pain should not be confused with isolated axial neck pain. Minor symptoms that are tolerable may be treated with conservative care, but persistent compression on a nerve root can lead to sensory loss and weakness. Disabling deficits should be treated operatively

given that prolonged nerve compression can result in irreversible changes. In patients without a neurologic deficit, it is reasonable to expect a good outcome with conservative care.¹⁸

X-ray findings



Figure 8.5 X-ray findings

Myelopathy has a clinical presentation of long tract signs resulting from compression of the spinal cord. Factors that contribute to the development of myelopathy include a congenitally narrow spinal canal, dynamic cord compression, dynamic thickening of the spinal cord, and vascular changes. The anterior posterior diameter in the subaxial spine for a normal adult measures 17 to 18 mm. The cord measures 10 mm, and diameters less than 13 mm are considered to be congenitally stenotic. The shape of the spinal cord deformity has a strong association with the development of myelopathy; patients with a banana shaped cord on axial views had evidence of myelopathy 98% of the time. Ono and associates described a ratio whereby the anterior posterior diameter of the spinal cord is divided by the transverse diameter of the cord. Patients with a ratio of less than 0.40 tended to have severe neurologic deficits. Patients may have dynamic cord compression with signs and symptoms of myelopathy only during neck flexion and extension. The space available for the cord is decreased during neck extension owing to infolding of the

ligamentum flavum and overlapping of the lamina. In addition, the spinal cord shortens during neck extension, effectively increasing the diameter and making it more prone to compression by posterior structures. In flexion, the cord lengthens and drapes over anterior degenerated disks and osteophytes. Myelopathy can be exacerbated by altered biomechanics from degenerated segments, as when a given level stiffens, the level above can become hypermobile. A certain subset of patients can develop myelopathy in the absence of mechanical compression; this has been attributed to ischemic insult. It has been shown in a canine model that in the setting of spinal cord compression, additive ischemia results in significantly worse outcomes, because over time the spinal cord demonstrates permanent irreversible changes. Patients with mild cases of myelopathy that does not affect activities of daily living can be closely followed. Those with more severe deficits or progressive deficits tend to deteriorate over time with conservative care, and it is recommended these patients should undergo surgery to decompress the spinal cord.

Cervical pain referral pathways¹⁵

Location of Pain	Source
Upper posterolateral cervical region	C0-C1,C1-C2,C2-C3
Occipital region	C2-C3,C3
<u>Upper posterior cervical region</u>	C2-C3,C3-C4,C3
<u>Middle posterior cervical region</u>	C3-C4,C4-C5,C4
<u>Lower posterior cervical region</u>	C4-C5,C5-C6,C4,C5
Suprascapular region	C4-C5,C5-C6,C4
Superior angle of scapula	C6-C7,C6,C7
Midscapular region	C7,T1

Table 8.2

PATHOLOGY:

Narrowing of the cervical vertebrae with disc space reduction. Friction between two vertebral bodies created by this narrowing, with an osteophyte (bony spur) formation. Loss of normal concavity in the cervical region, i.e. loss of lordosis. Symptoms of vascular insufficiency, numbness and tingling sensation in the hands or feet due to the compression of the cervical nerve roots¹⁹.

POSSIBLE COMPLICATIONS:

Inability to hold in faeces (faecal) or urine (urinary incontinence), Loss of muscle function or feeling perMannent disability (occasionally).

DIFFERENTIAL DIAGNOSIS:

- Compression of cord or root (TB or neurofibromas)
- Carcinomatous infiltration or radiotherapy
- Peripheral nerve lesions (Distal ulnar or median nerve)
- Motor neuron disease
- Syringomyelia
- Multiple sclerosis

EXAMINATION OF CERVICAL SPINE¹⁴:

1. Spur ling's sign: In cervical spondylosis, cervical extension results in narrowing of the vertebral canal there by producing severe pain in neck.
2. Shoulder abduction relief sign: Abduction of shoulder relieves pain in cervical spondylosis.

INVESTIGATIONS

Plain X-ray of Neck: Antero posterior view, Lateral view, Oblique view

Features

1. Loss of normal cervical lordosis
2. Spondylotic bars
3. IV disc narrowing and subluxation
4. Reduction of sagittal diameter is less than 11 mm or 7mm (In neck extension)

MYELOGRAPHY:

It provides evidence of nature of cord, nerve roots and dimension of the vertebral canal and the root outlets.

CT SCAN AND MRI:

They are extremely valuable after myelography. It provides evidence of overall transverse axial dimensions of the canal and the foramina and helps in the better assessment of cord compression. MRI is the first choice when investigating suspected lesions of the spinal cord.

EMG STUDY:

It provides differentiation of root lesions from other plexopathies and thoracic outlet problems.

9. LINE OF TREATMENT

“வைத்தியச் செயல் வைத்தியமாமே
பலவாறு மாறுதலடைந்து கெடுக்கின்ற உடலை நிலைக்கும்
மாறுதல் அணுகாணும் ஒரே தன்மையாக
செய்தும் அதனாலாஞ் செயிலக்குறைவின்றி
நடக்கச் செய்வ தெதுவோ அதுவே வைத்தியம்”

-திருமூலர் 800

The aim of Siddha treatment is not only the removal of physical illnesses but also the mental illnesses, prevention as well as restoring the body condition. This is said as follows.

1. *Kaappu* (Prevention)
2. *Neekkam* (Treatment)
3. *Niraivu* (Restoration)

While treating the disease, the following principles should be noted,

நோய்நாடி நோய்முத னாடி யதுதணிக்கும்
வாய்நாடி வாய்ப்பச் செயல்

- திருக்குறள்

உற்றா னளவும் பிணியளவுங் காலமுங்
கற்றான் கருதிச் செயல்

- திருக்குறள்

So it is essential to know the disease, the aetiological factors, the nature of the patient and severity of the disease before instituting treatment.

முப்பிணி மருவி முறிவு கொள்குறிப்பை
தப்பாதறியும் தன்மையும் வாதபித்த வையப்
பிரிவையுமனைவதாம்
ஏறி யிறங்கி இணைந்து கலந்து
மாறிமாறி வருஞ்செய்கையாற் பிணி
நேர்மையறிந்து நீட்டு மருந்தே
சீரியதாமெனச் செப்புவர் சித்தரே

Kaappu (Prevention)

பிணியனுகா விதி

"திண்ண மிரண்டுள்ளே சிக்க வடக்காமற்
பெண்ணின்பா லொன்றைப் பெருக்காமல் - உண்ணுங்கால்
நீர்சுருக்கி மோர்பெருக்கி நெய்யுருக்கி யுண்பவர் தம்
பேருரைக்கிற் போமே பிணி"

-பதார்த்த குண சிந்தாமணி

In Siddha system of medicine there are Manny ways to prevent disease by changing the lifestyle. It is well explained in *Theraiyar Pinianugavidhi*.

Neekkam (Treatment)

The three *Uyir Thathus* which are responsible for organization, regularization and integration of the bodily structures and their physiological functions are always kept in a state of equilibrium by word, thought, deed and food of the individual. The general aetiological factors for constitutional discomfort is said to be incompatible diet, mental and physical activities.

Niraivu (Restoration)

Patient needs good discussion and motivation and persuasion to accept the eventuality of **Karnaavartham** disease and prepare for a lifestyle that provides optimization of metabolic status. Suitable effective medicinal preparations have to be administered in the beginning itself to neutralize and eliminate this disease. Siddhars aimed at bringing the three *doshas* in equilibrium in the treatment of disease. Towards this end we treat with herbs and mineral preparations are used, while treating *Karnaavartham*. Siddhars recommend a minimum dosage initially and then increased the dose gradually.

Line of treatment for Karnaavartham

- Normalization of altered *Uyirthathukal*
- Internal medicines
- Diet

Normalization of altered *uyirthathukal*

Ennai kuliya

Chukku thylam for *Vatham*

Cow ghee for *Ushnam*

Keezhanelli thylam for *Pitham*

Arakku thylam for balancing heat and cold

Viresanam

Agasthiyar kulambu or Merugulli thylam for *Vatham*

Kumari ennai for *Pitham*

Siddhathi ennai for *Kabam*

Balancing the altered *doshams*

Balancing altered *Vatham*

Maha vatha choornam 3 g with warm water, at night for 3 days, for 3 months continuously.

Balancing aggravated *Pitham*:

Madhulai Mannapagu, 10ml mixed with 60ml of pure water, 2 to 3 times a day, ½ to 1 ½ hour before food for 21 days.

Balancing aggravated *Kabam*:

Pancha-Deepakini Chooranam, 1 to 2 g mixed with honey, twice a day, one hour before food for 21 days.

INTERNAL MEDICINES:

- Chooranam, kudineer, leghyam, parpam, chendooram etc., appropriate for the disease.
- *Vatham* has dry, cool, lightness, sharp and movable properties. We should select the medicines to antagonize the properties of *Vatham* like heat, viscosity (neippu), heavier potency drugs like,
 - Parangipattai, Seenthil Chukku paal kaasayam and Nerunjil for internal administration.
 - Vaatha sura kudineer paal kasayam(int)
 - Ammukkura chooranam(int)
 - Serankottai nei (int)
 - Lagu vidamutti thylam (ext)
 - Pinda thylam for external

SPECIAL MEDICATIONS:

INTERNAL MEDICINES:

- Pancha sootha mezhugu
- Navauppu mezhugu
- Nanthi mai
- Rasa mezhugu

- Saathi linga parpam
- Merugulli thylam(Int & Ext)
- Rasa chenthooram
- Ganthaga chenthooram
- Loga chenthooram
- Mathana kamesura chooranam
- Nantheesar sandamarutha mezhugu
- Panch navaloga mezhugu
- Erukkennai(int & ext)
- Thazhuthalai thylam(int & ext)
- Pachai vettu- vanchamundan keerai juice 5ml, every 2 1/2 hrs once
- Vaalai rasa mezhugu(int)

GENERAL MEDICINES FOR VATHAM:

- Kodasoori kuligai
- Pachai karpooa mathirai
- Emathandathi kuligai
- Ayaveera chenthooram
- Thanga chenthooram
- Thambira chenthooram

EXTERNAL MEDICINES:

- Erukku kiyazham
- Lagu vidamutti thylam
- Mayana thylam
- Maha vaatha thylam

***PATHIYAM* (DIET RESTRICTION)**

Patients were advised to follow certain special dietary methods called “*Pathiyam*”. The importance of diet restriction is clearly mentioned by sage Yugi as follows,

“பத்தியத்தினாலே பலனுண்டாகும் மருந்து

பத்தியங்கள் போனால் பலன் போகும் - பத்தியத்தில்

பத்தியமே வெற்றிதரும் பண்டிதருக்காதலினாற்

பத்தியமே உத்தியென்று பார்”.

- யூகி வைத்திய சிந்தாமணி 800

“புளிதுவர் விஞ்சுங் கறியாற் பூரிக்கும் வாதம்”

- பதார்த்த குண சிந்தாமணி

Sour and astringent food products induces the *Vatham* from that baseline.

VATHA DIET:

FOODS TO BE ADDED:

Old stocked boiled rice, wheat, honey, ghee, milk, moongdall, moringa, snake gourd, pomegranate, tender brinjal, horsegram, cumin seeds, asafoetida, garlic, onion and pepper. If *Vatha* join with *Kabam*, we should take *Leucas aspera* leaves, *Eclipta alba* leaves as greens along with above regimens.

Table9.1: Vatha diet¹¹

Tender vegetables	Brinjal (<i>Solanaum melongena</i>), Broad beans (<i>Dolichos lablab</i>), Fig (<i>Ficus racemosa</i>), Drumstick (<i>Moriga oleifera</i>), Yam (<i>Colocasia antiquarum</i>), turkey berry (<i>Solanam torvum</i>), Radish (<i>Rhaphanus sativus</i>), Bitter gourd (<i>Memordica charantia</i>), Ash gourd (<i>Benincasa hispida</i>), <i>pirandai</i> (<i>Cissus quadrangularis</i>)
Greens	<i>Mudakaruthan</i> (<i>Cardiospermum halicacabum</i>), <i>sirukeerai</i> (<i>Amaranthus tricolor</i>), <i>thuthuvelai</i> (<i>Solanum trilobatum</i>), <i>mookirattai</i> (<i>Boerhaavia diffusa</i>), <i>puliyaarai</i> (<i>Hibiscus cannabinus</i>), <i>ponnanganni</i> (<i>Alternanthera sessilis</i>), <i>Mannali</i> (<i>Gisekia pharanaceoides</i>)
Pulses	Split red gram (thoor dhal)
Dairy product	Cow's butter milk
Animal products	<i>Udumbu</i> (monitar lizard), <i>kadai</i> (<i>Gallus sonne ralti</i>), <i>kavuthari</i> (Indian partridge), <i>velladu</i> (<i>Capra hircus</i>), <i>ayirai meen</i> (Loach)

FOODS TO BE AVOIDED:

- Vegetables: Plantain products(*Musa paradisiaca*), *Verkadalai* (*Arachis hypogea*), *surai*, *vellari*, *pudal*, *peerkku*
- Grains: *KaaraManni* (*Vigna unguiculata*), *Paataani* (*Pisum ssativum*), *Mochai* (*Lablab purpureus*), *ulundhu*, *kollu*, mustard
- Sour and astringent tastes

- Tubers except *karunai* (*Colacasia antiquorum*) and Carbohydrate rich foods
- Sea foods

MEDICAL ADVICE TO MANAGE KARNAAVARTHAM SYMPTOMS

- Take oil bath every 4 days once
- Take purgation every 4 months once
- Strictly avoid animal proteins like meat, egg, fish
- Take lot of green leafy vegetables, fruits(less sour) and water
- Avoid very chilled products, bath, clothes to wear and atmosphere(it will increase the stiffness)
- Avoid high carbohydrate and fatty foods
- Do exercises (swimming) or *yogasana* daily to refresh the body
- Slightly reduce the sour food products

GENERAL DIET AND RESTRICTIONS

- ❖ Patients are advised to take plenty of green vegetables, sprouted, grain, fruits, lentils, beans, whole grains, brown rice, unprocessed food, balanced meals including carbohydrates, protein and fat
- ❖ Patients are advised to avoid bitter gourd, Manngo, sesame, chicken, meat, tamarind, sweetened juice, canned food, starchy vegetables such as potatoes, corn and peas, refined grains, Sugary drinks such as soda, Sugary food such as cookies, cakes and candy.
- ❖ Day sleep should be avoided
- ❖ Exercise to do:

Low intensity aerobic exercise

Thermotherapy

Physiotherapy

Moderate to high impact exercises like jogging are generally not recommended with restrictions due to the jarring of affected vertebrae that can worsen pain and stiffness in some cases.

Siddha system lays a great importance on the observation of rules regarding diet in everyday life because the Siddha system has rightly realized that the basic factor of the body is food. That is *annamayakosam* is the first among the five *kosams* constituting our physical and mental existence. To prevent the occurrence of the disease, elaborate guidelines regarding food intake in our daily diet is given in Siddha literature.

“மருந்தென வேண்டாவாம் யாக்கைக்
கருத்தியதற்றது போற்றி யுண்ணின்”
“தீயளவு அன்றி தெரியான் பெரிதுண்ணின்
நோயளவு இன்றிப் படும்
“மாறுபாடில்லாத வுண்டி மறுத்துண்ணின்
ஊறுபாடி ல்லையு யிர்க்கு

- திருக்குறள்

Generally when a medicine is administered, Siddha physician prescribes dietary regimen according to the nature of the medicine and severity of the disease. As over intake or consuming unbalanced and incompatible diet is considered to be the prime causative factor for upsetting the tri humoral balance leading to the manifestations of various ailments.

STUDY TYPE

- Observational study type

STUDY DESIGN

- An Analytical, open label, single centric study

STUDY PLACE

- OPD & IPD National Institute of Siddha, Chennai-47.

SAMPLE SIZE

- Patients - 20

STUDY PERIOD

- 24 months

SELECTION & WITHDRAWAL OF SUBJECTS

INCLUSION CRITERIA

- Age 20-65 yrs
- Neck pain
- Occipital headache
- Ear pain
- Stiffness of neck
- Difficulty in breathing

Patients with any three of the above mentioned clinical features were included in the study.

EXCLUSION CRITERIA

- Any other systemic illness
- Vulnerable group
- Cardiac diseases
- Ear diseases
- Migraine headache

STUDY ENROLLMENT

- In the study, patients reporting at the OPD of Ayothidoss Pandithar Siddha Hospital with the clinical symptoms of vasana vatham were referred to the Research group. Those patients will be screened using the screening proforma (Form-I) and examined clinically for enrolling in the study based on the inclusion

and exclusion criteria. Based on the inclusion criteria the patients will be included first and excluded from the study on the same day if they hit the exclusion criteria.

- The patients who are to be enrolled were informed (Form IV-A) about the study, and the objectives of the study in the language and terms understandable for them.
- After ascertaining the patient's willingness, a written informed consent was obtained from them in the consent form (Form IV).
- All these patients will be given unique registration card in which patients' Registration number of the study, Address, Phone number and Doctors phone number etc. were given, so as to report to research group easily if any complication arises.
- Complete clinical history, complaints and duration, examination findings all were recorded in the prescribed proforma in the history and clinical assessment forms separately. Screening Form- I will be filled up; Form I-A, Form –II and Form –III were used for recording the patient's history, clinical examination of symptoms and signs and lab investigations respectively.

(Vernacular and English versions)

INVESTIGATIONS

1. Siddha

a. Eight fold examination

Naadi

Meikkuri (Physical Signs)

Naa (Tongue)

Niram (Complexion)

Mozhi (Voice)

Vizhi (Eyes)

Malam (Stools)

Moothiram (Urine)

Neerkuri

Neikkuri

b. Manikkadainool

2. Modern

Complete blood count

Urine

Albumin
Sugar
Deposits
Motion
Ova
Cyst
Occult blood

SPECIAL INVESTIGATION:

- **MRI – Cervical spine**

MANIKKADAINOOL

ASTROLOGY

DETERMINATION OF PRAKRITI /UDALIYAL (Body Constitution)

DATA COLLECTION

Required information will be collected from each patient by using following forms.

Form –I	Screening and selection Proforma
Form –IA	History Proforma on enrollment
Form II	Clinical Assessment on enrollment
Form –III	Laboratory investigations on enrollment, during the study
Form –IV	Consent form (Vernacular and English versions)
Form -IV- A	Patient Information Sheet

TREATMENT DURING THE STUDY:

Normal treatment procedure followed in Department of Noi Naadal, NIS was prescribed to the study patients and the treatment was provided at free of cost.

DATA MANNAGEMENT

- After enrolling the patient in the study, a separate file for each patient was opened and all forms will be filed in the file. Study No. and Patient No. was entered on the top of file for easy identification and arranged in a separate rack at the concerned OPD unit. Whenever study patient visits OPD during the study period, the respective patient file was taken and necessary recordings was made at the case record form or other suitable form.
- The Data recordings will be monitored for completion and compliance of patients by HOD and Sr. Research Officer (Statistics). All forms were further scrutinized

in presence of Investigators by Sr. Research Officer (Statistics) for logical errors and incompleteness of data before entering on to computer to avoid any bias. No modification in the results is permitted for unbiased report.

- Any missed data found in during the study, it were collected from the patient, but the time related data will not be recorded retrospectively
- All collected data was entered using MS access software onto computer.
- Investigators were trained to enter the patient data and cross checked by SRO

STATISTICAL ANALYSIS

All collected data were entered into computer and the Neikkuri shape was recorded as per literature. The shape association with patients with Karnaavartham were descriptively analyzed and presented.

ETHICAL ISSUE

1. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments will be used.
2. The data collected from the patient was kept confidentially. The patient was informed about the diagnosis.
3. After the consent of the patient (through written consent form) they were enrolled in the study.
4. Signed informed written consent form were get by providing subject information sheet with clearly explained about the advantages and disadvantages of the study.
5. Informed consent was obtained from the patient explaining in the understandable language to the patient.
6. The protocol was submitted to the IEC for approval and clearance.
7. This study involves only the necessary investigations warranted for substantiating the diagnosis and no other investigations (mentioned in the protocol) were done.
8. Normal treatment procedure followed in NIS was prescribed to the study patients and the treatment was provided at free of cost.

There was no infringement on the rights of patient.

11. OBSERVATIONS

Age Distribution:

S.No	Age	No. Of cases	Percentage (%)
1	31-40	5	25%
2	41-50	11	55%
3	51-65	4	20%
	Total	20	100%

Table 11.1

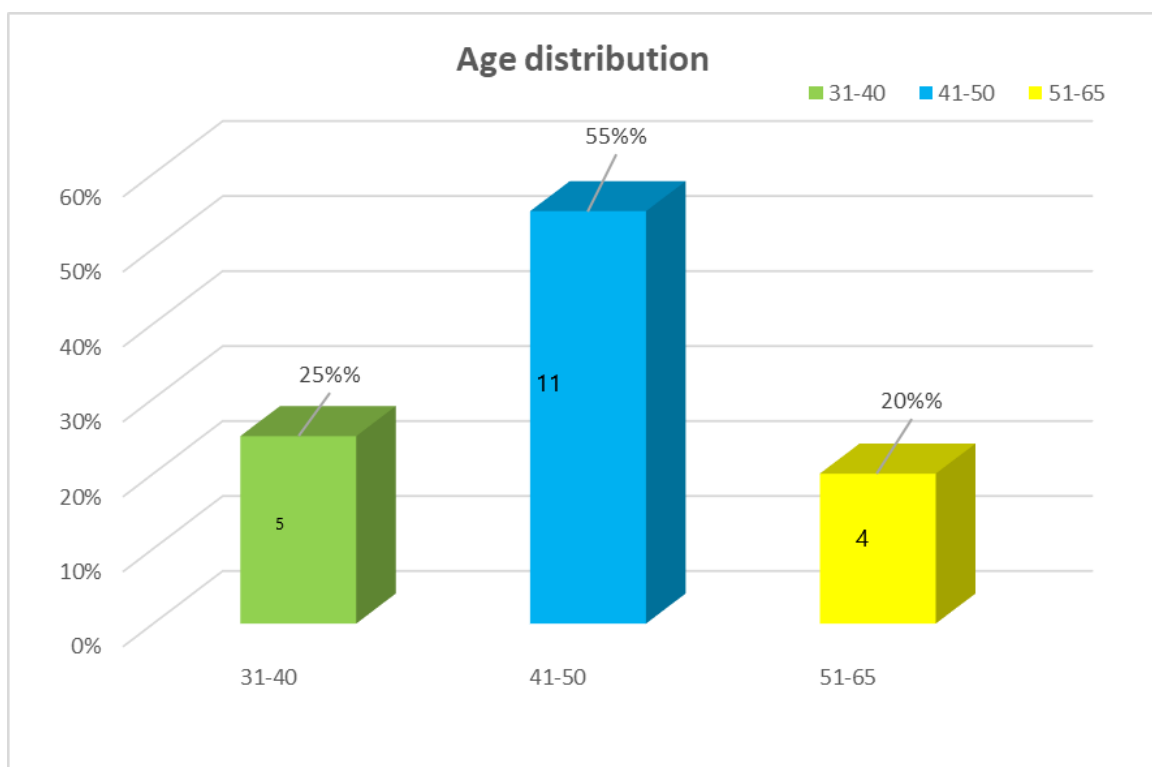


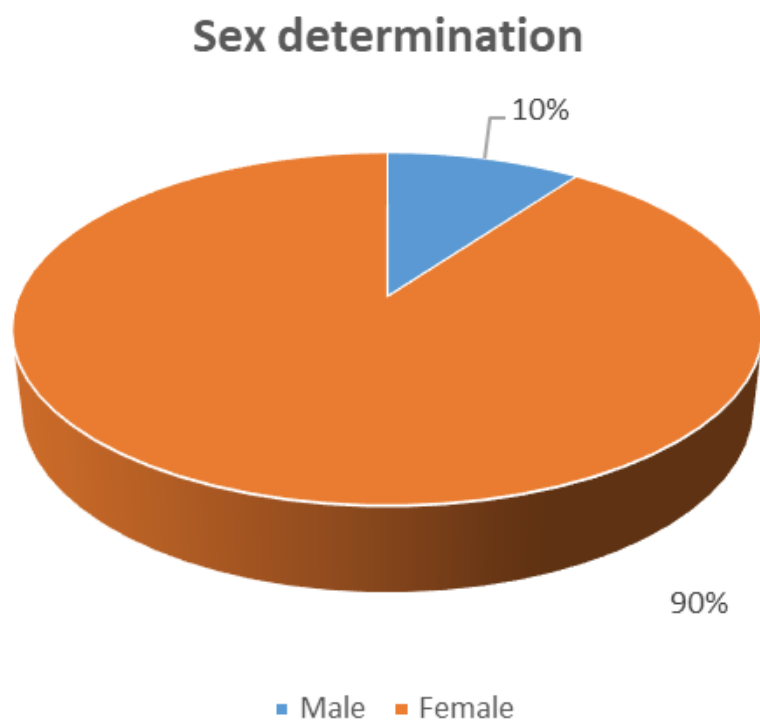
Figure 11.1

OBSERVATION

Out of 20 cases, 11 cases (55%) fell under the group of 41-50 years of age, 5 cases (25%) fell under group of 31-40 years of age and 4 cases (20%) fell under the group of 51-65 years of age.

Sex Distribution:

Sex Distribution	No. of cases	Percentage (%)
Male	2	10
Female	18	90
Total	20	100

Table 11.2**Figure 11.2****OBSERVATION**

Among 20 cases 18 (90%) cases were Females, 2 (10%) cases were Males.

Food Habits:

Diet	No. of cases	Percentage (%)
Mixed	17	85%
Vegetarian	3	15%
Total	20	100%

Table 11.3**Figure 11.3****OBSERVATION**

Among 20 cases, 17 (85%) cases were being mixed diet and 3 (15%) cases were being vegetarian.

Socio Economic Status:

Economic Status	No. of cases	Percentage (%)
Upper middle	4	20%
Middle	9	45%
Lower middle	7	35%
Total	20	100%

Table 11.4

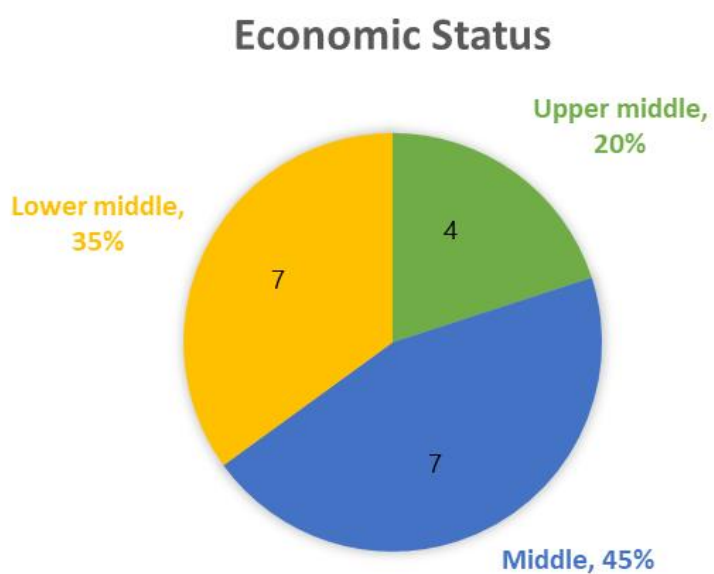


Figure 11.4

OBSERVATION

Among 20 cases, 9 (45%) cases were middle income group, 7 cases (35%) were low income group and 4 cases (20%) were Upper middle income group.

Clinical Features:

Clinical Features	No. of Cases	Percentage %
Neck Pain	20	100
Stiffness of Neck	18	90
Occipital Headache	19	95
Ear Pain	18	90
Chest Discomtort	20	100

Table 11.5

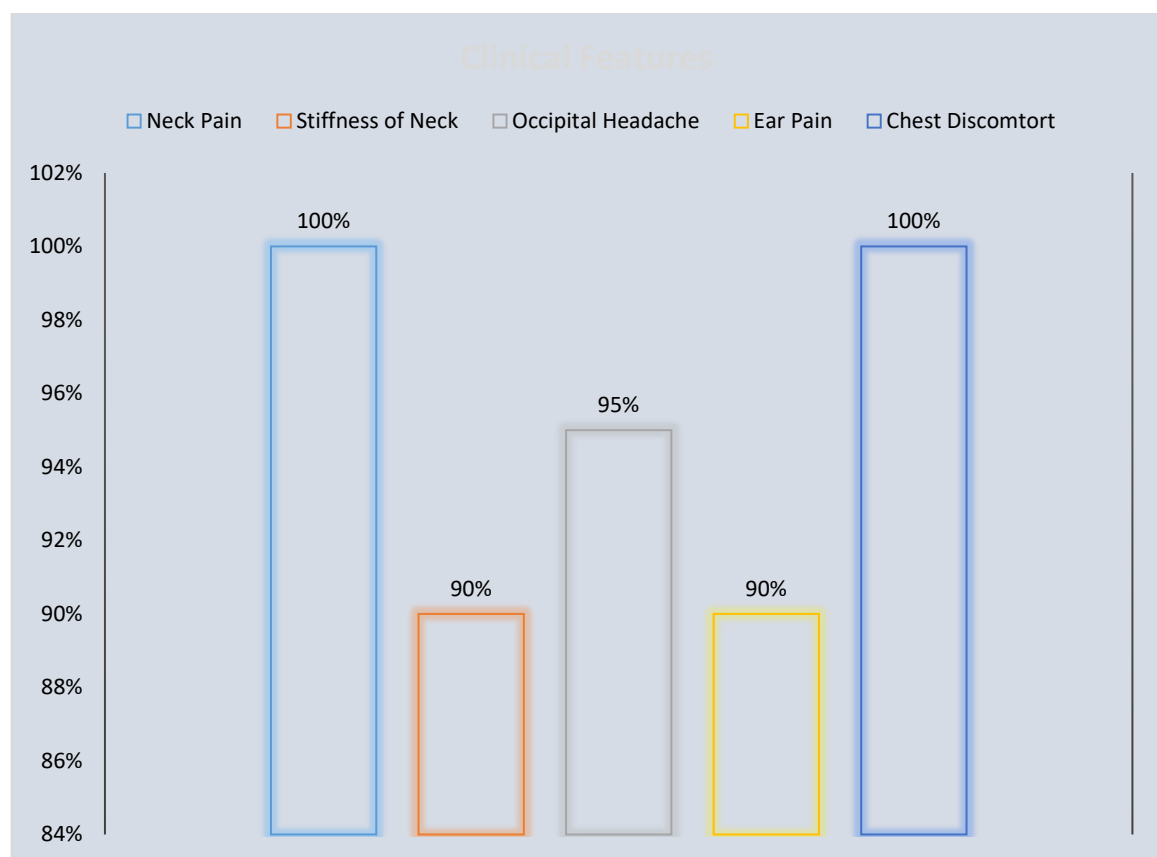


Figure 11.5

OBSERVATION

Among 20 cases, all the cases had the symptoms of neck pain and chest discomfort. 18 cases (90%) had stiffness of neck and ear pain. 19 cases (95%) had of occipital headache.

***Yakkai* (Somatic Types):**

Yakkai	No. of cases	Percentage (%)
Vatham	0	0%
Pitham	0	0%
Kabam	0	0%
VP	4	20%
VK	2	10%
PV	7	35%
PK	0	0%
KV	3	15%
KP	4	20%
Mukkuthram	0	0%
Total	20	100%

Table 11.6

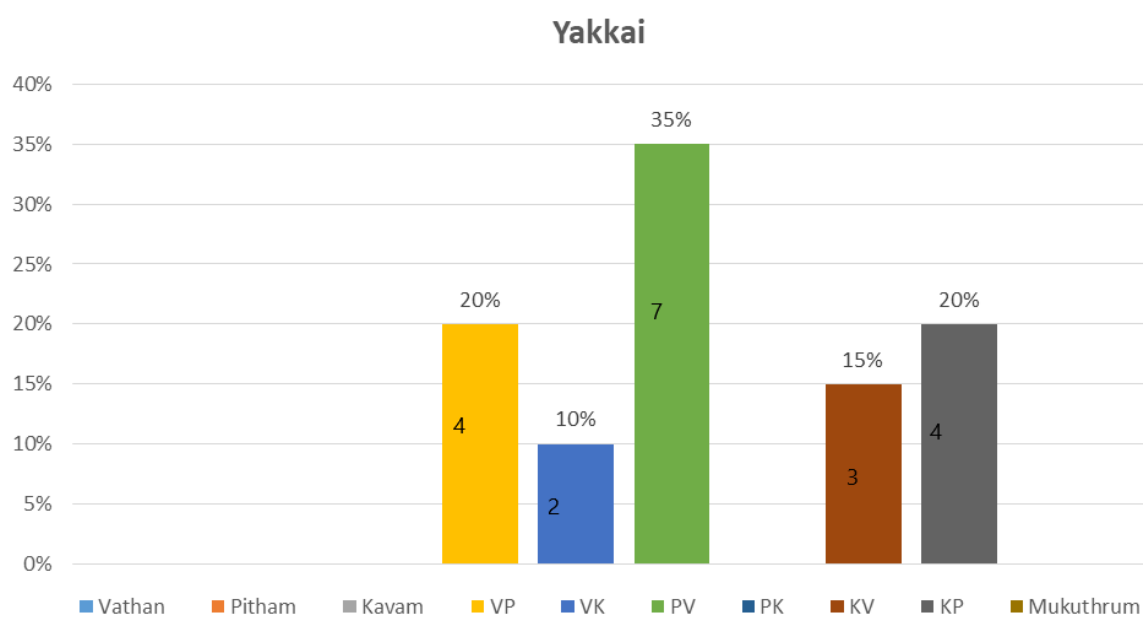


Figure 11.6

OBSERVATION

Among the 20 cases, 7 cases (35%) were of *Pithavatham* body constitution, 4 cases (20%) were of *Vathapitham*, 4 cases (20%) cases were of *Kabapitham*, 3 cases were of *Kabavatham* and 2 cases were of *Vathakabam* body constitution.

Noiutrakaalam (Disease acquired Seasons):

Noiutrakaalam	No. of cases	Percentage (%)
Kaar(Rainy)	0	0%
Koothir(Post rainy)	0	0%
Munpani(Winter)	9	45%
Pinpani(Post winter)	6	30%
Ilavenir(Summer)	5	25%
Muthuvenir(Post summer)	0	0%
Total	20	100%

Table 11.7

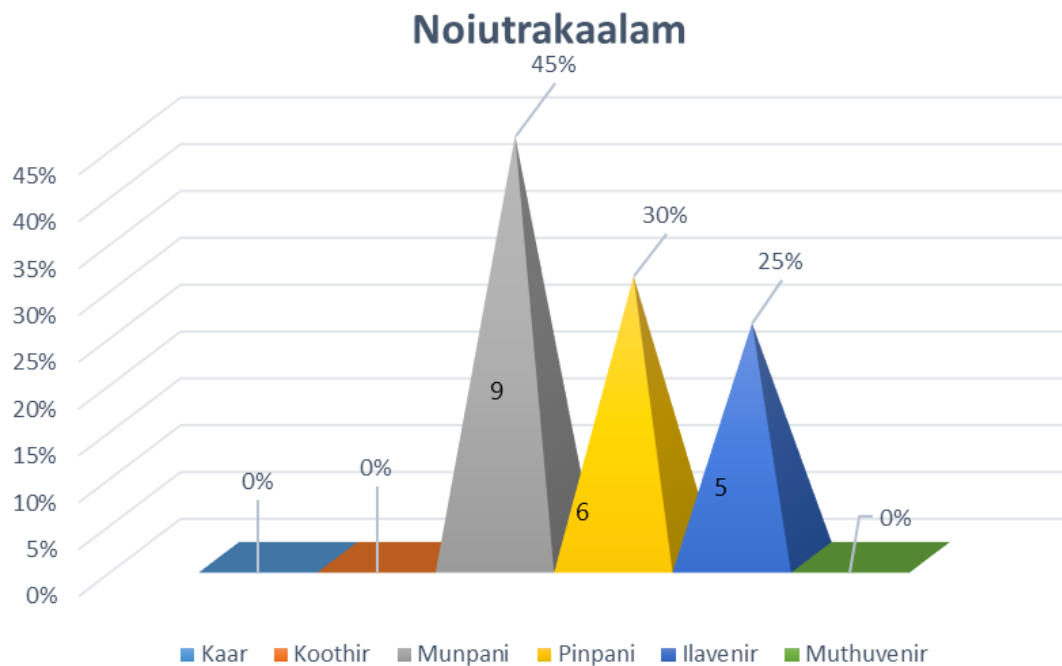


Figure 11.7

OBSERVATION

Among 20 cases 9 cases (45%) had been affected at *Munpani kaalam*, 6 cases (30%) had been affected at *Pinpani kaalam*, 5 cases (25%) had been affected at *Ilavenil kaalam*. Most of cases had been affected at *Munpani kaalam*.

Noi Utra Nilam (Land):

Nilam	No. of cases	Percentage (%)
Kurunji	0	0%
Mullai	0	0%
Marutham	16	80%
Neithal	4	20%
Palai	0	0%
Total	20	100%

Table 11.8

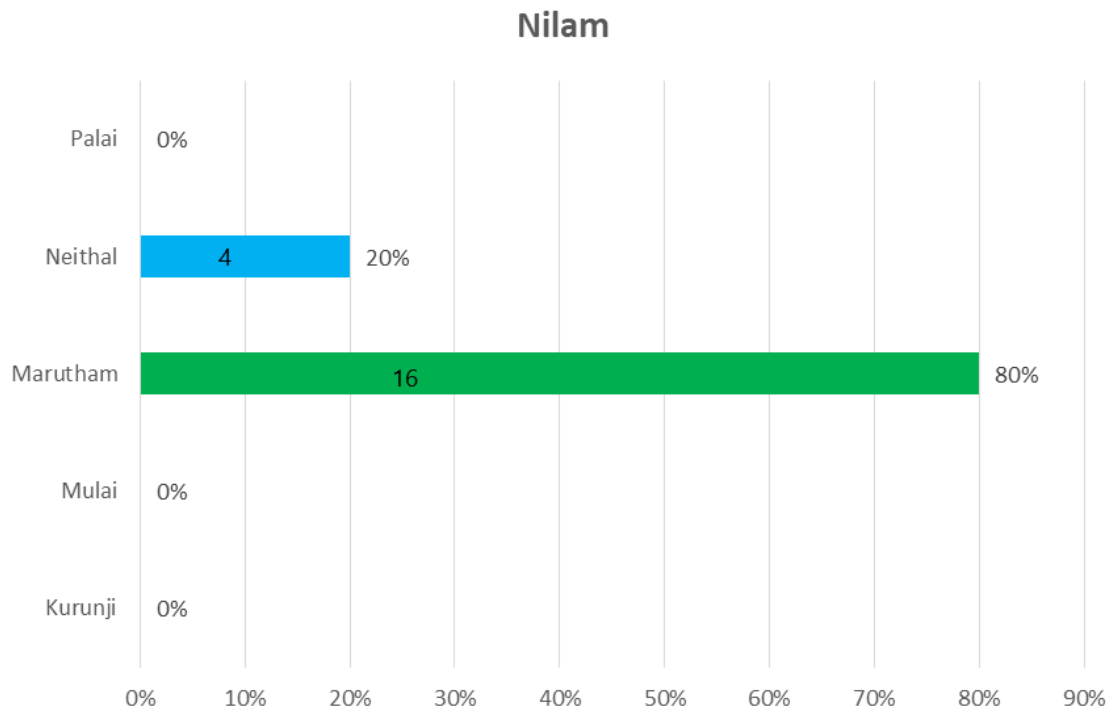


Figure 11.8

OBSERVATION

Out of 20 cases 16 cases (80%) had been affected in *Marutha Nilam*, 4 cases (20%) had been affected in *Neithal Nilam*.

Gnanenthiriyangal:

Gnanenthiriyangal	No of Cases	Percentage %
Mei	2	10%
Vaai	0	0%
Kan	0	0%
Mookku	0	0%
Sevi	0	0%

Table11.9

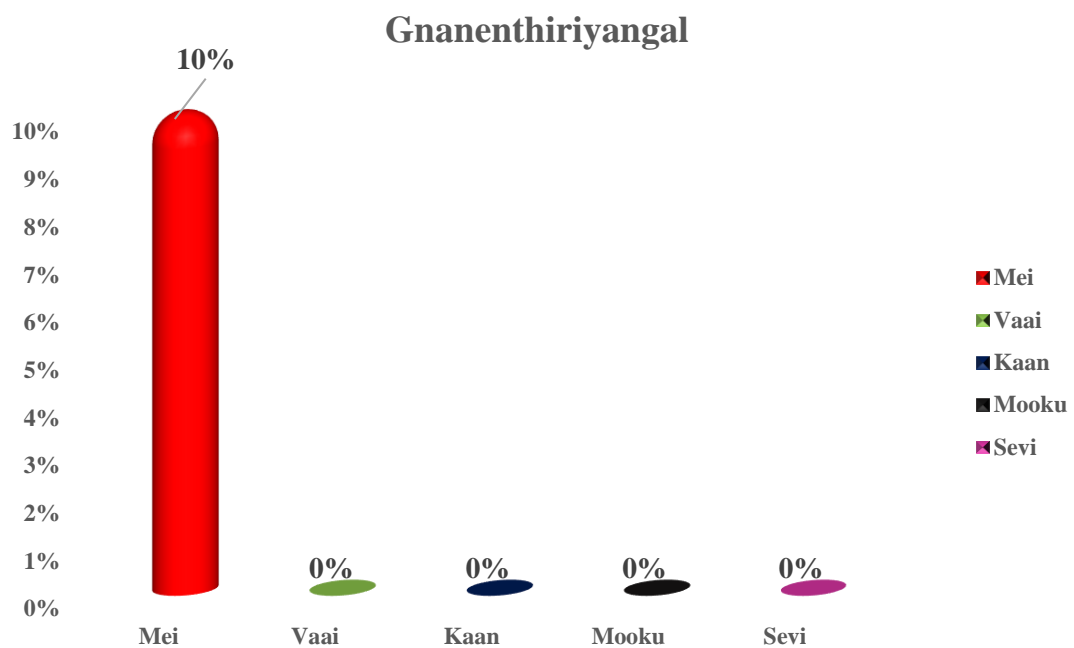


Figure 11.9

OBSERVATION

Among 20 cases, *Mei* had been affected for 2 cases (10%) as a result of burning sensation in the affected areas. Other *Gnanenthiriyangal* remain not affected.

Kanmenthriyangal:

Kanmenthriyangal	No of Cases	Percentage
Kai	20	100
Kaal	2	10
Vaai	0	0
Eruvaai	0	0
Karuvaai	0	0

Table 11.10

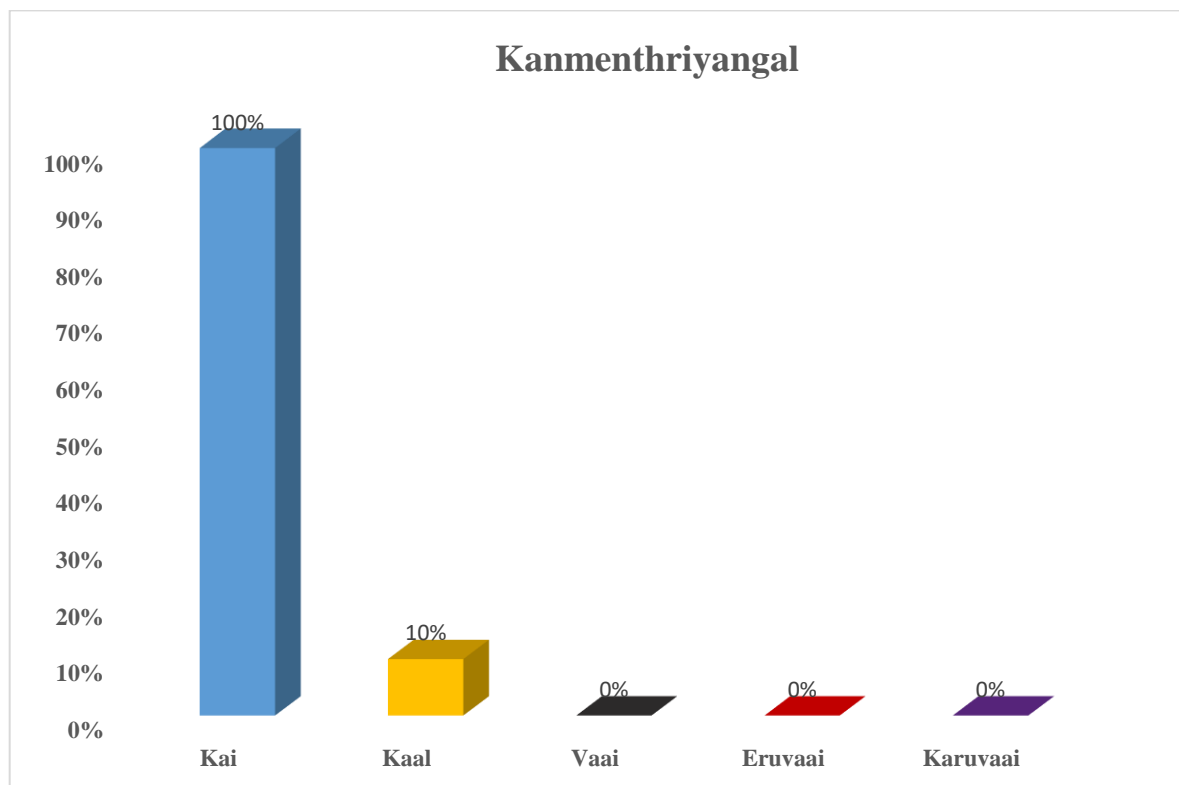


Figure 11.10

OBSERVATION

In Kanmentheriyangal, *Kai* was affected for all the 20 (100%) cases due to radiating pain. *Kaal* was affected for 2 cases (10%)

Udal Thathukkal:

Udal Thathukkal	Normal	Affected	Normal percentage %	Affected percentage %
Saaram (digestive chyme)	0	20	0%	100%
Senneer (blood)	19	1	95%	5%
Oon (muscle)	19	1	95%	5%
Kozhuppu (fat)	20	0	100%	0%
Enbu (bone)	1	19	5%	95%
Moolai (marrow)	20	0	100%	0%
Sukkilam	0		0%	0%
Total	20	20	100%	100%

Table 11.11

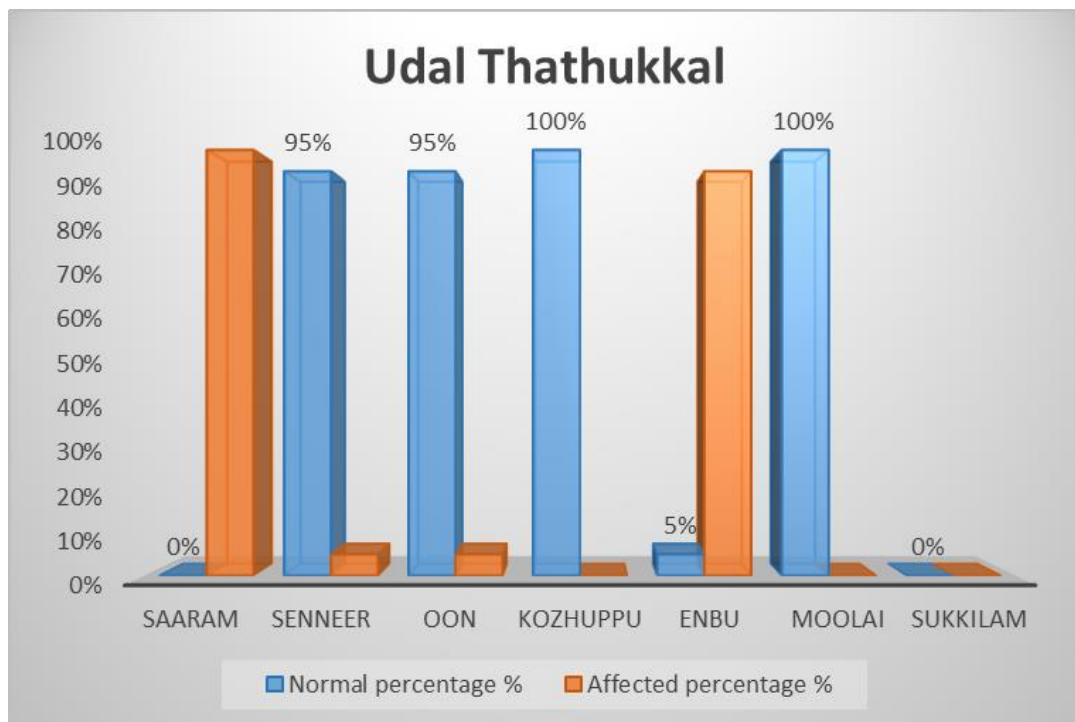


Figure 11.11

OBSERVATION

Among the seven somatic components of 20 cases, all the 20 cases (100%) had affected *Saaram*. 19 cases (95%) had affected *Enbu*, 1 case (5%) had affected *Oon* and 1 case (5%) had affected *Senneer*.

Uyir Thathukkal – Vali:

Vaatham	Normal	Affected	Affected percentage %
Pranan	20	0	0%
Abanan	18	2	10%
Samaanan	0	20	100%
Udaanan	20	0	0%
Viyaanan	0	20	100%
Naahan	20	0	0%
KoorMann	20	0	0%
Kirukaran	20	0	0%
Devathathan	0	20	100%
Dhananjeyan	0	0	0%
Total	20	20	100%

Table 11.12

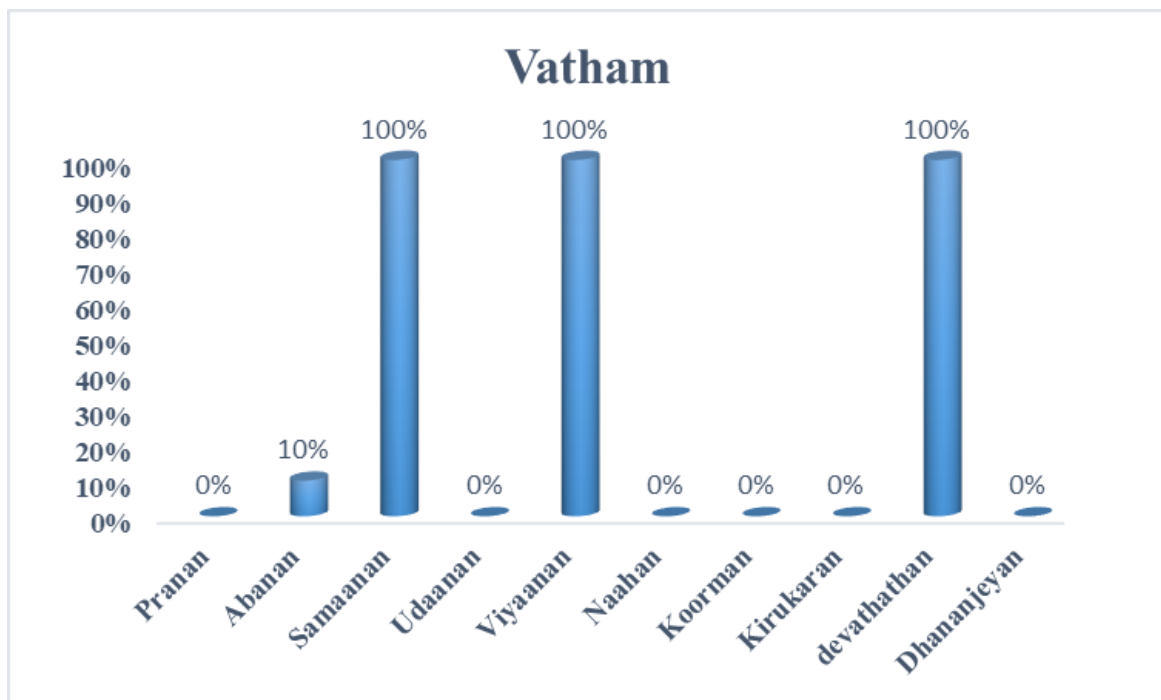


Figure 11.12

OBSERVATION

Out of 20 cases, all the cases (100%) had derangement in *Samanan*, *Viyanan* and *Devathathan*. 2 cases (10%) had derangement in *Abanan*.

Uyir Thathukkal – Azhal:

Pitham	Normal	Normal percentage %	Affected	Affected percentage %
Analagam	19	95%	1	5%
Ranjagam	19	95%	1	5%
Sathagam	0	0%	20	100%
Alosagam	20	100%	0	0%
Prasasgam	20	100%	0	0%
Total	20	100%	20	100%

Table 11.13

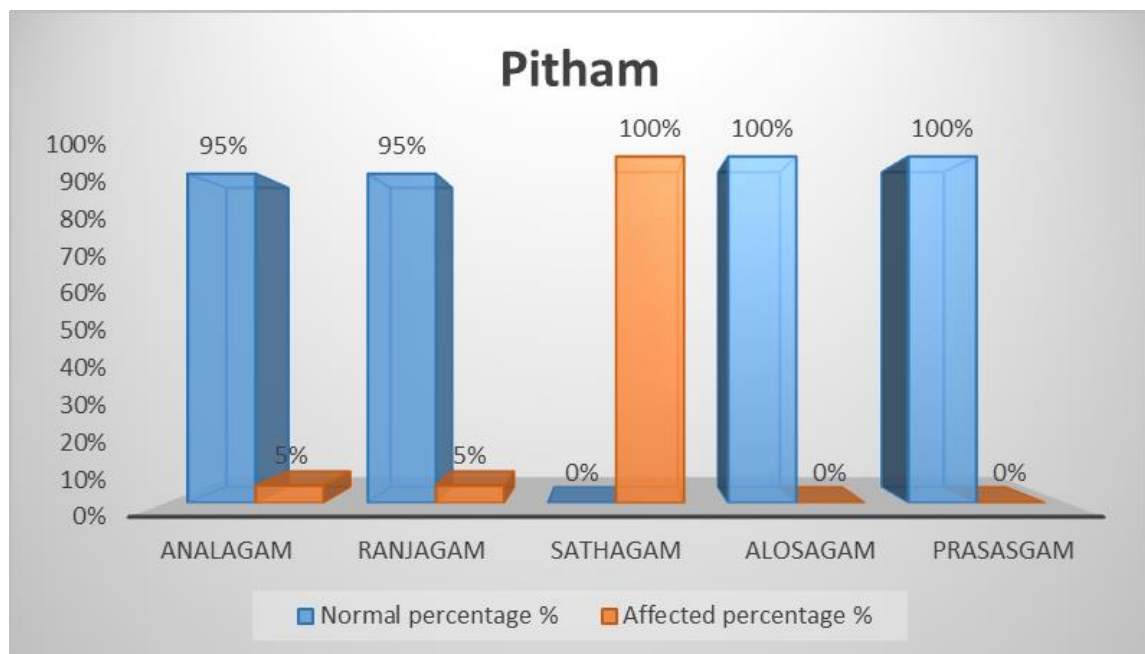


Figure 11.13

OBSERVATION

Out of 20 cases, all the cases (100%) had derangement in *Saathaga Pitham*, 1 case (5%) had derangement in *Ranjaga Pitham* and 1 case (5%) had derangement in *Anala Pitham*.

Uyir Thathukkal – Iyyam:

Kabam	Normal	Affected	Normal percentage %	Affected percentage %
Avalambagam	19	1	95%	5%
Kilethagam	20	0	100%	0%
Pothagam	20	0	100%	0%
Tharpagam	20	0	100%	0%
Santhigam	0	20	0%	100%
Total	20	20	100%	100%

Table 11.14

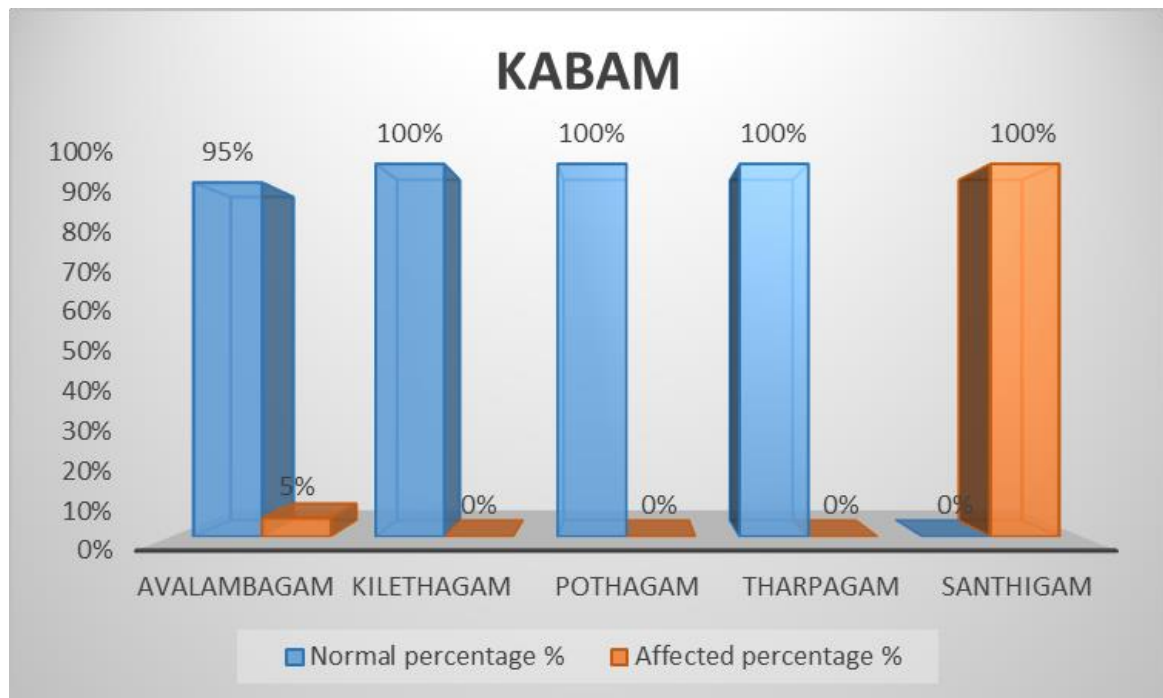


Figure 11.14

OBSERVATION

Out of 20 cases, all cases (100%) had derangement in *Santhigam* and 1 case had derangement in *Avalambagam*.

Envagai Thervugal – Naa (Tongue):

Naa		No. of Patients	Percentage
MaaPadinthuruthal (coating)	present	8	40%
Niram (colour of tongue)	Karuppu	2	10%
	Manjal	7	35%
	Veluppu	11	55%
Suvai (taste)	Inippu	12	60%
	Pulippu	3	15%
	Kaippu	5	25%
Vedippu (fissure)	Present	2	10%
Vaai Neer Ooral (salivation)	Normal	16	80%
	Increased	4	20%
total		20	100%

Table 11.15

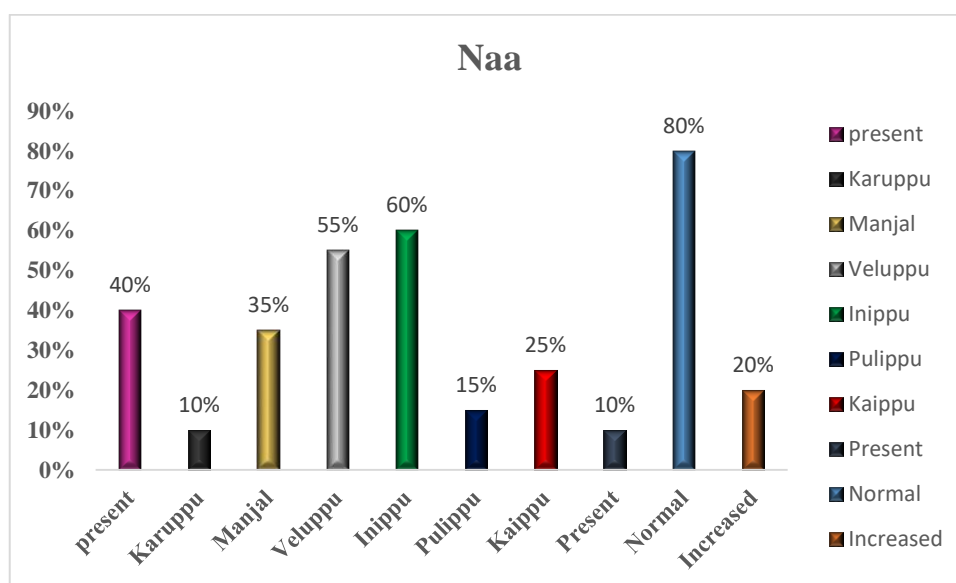


Figure 11.15

OBSERVATION

Among 20 cases, 8 cases (40%) had coated tongue, 2 cases (10%) had fissured tongue.

Among 20 cases, 7 cases (35%) had yellow pigmented tongue, 2 cases (20%) had black pigmented tongue, 11 cases (55%) had pallor tongue.

In 20 cases, 12 cases (60%) had sweet taste, 3 cases (15%) had sour taste, and 5 cases (25%) had bitter taste of the tongue. In 20 cases 4 case (20%) had excessive salivation, 16 cases (80%) had normal salivation.

***Niram* (Complexion):**

Niram	No. of cases	Percentage (%)
Karuppu	7	35%
Velupu	8	40%
Manjal	5	25%
Total	20	100%

Table 11.16

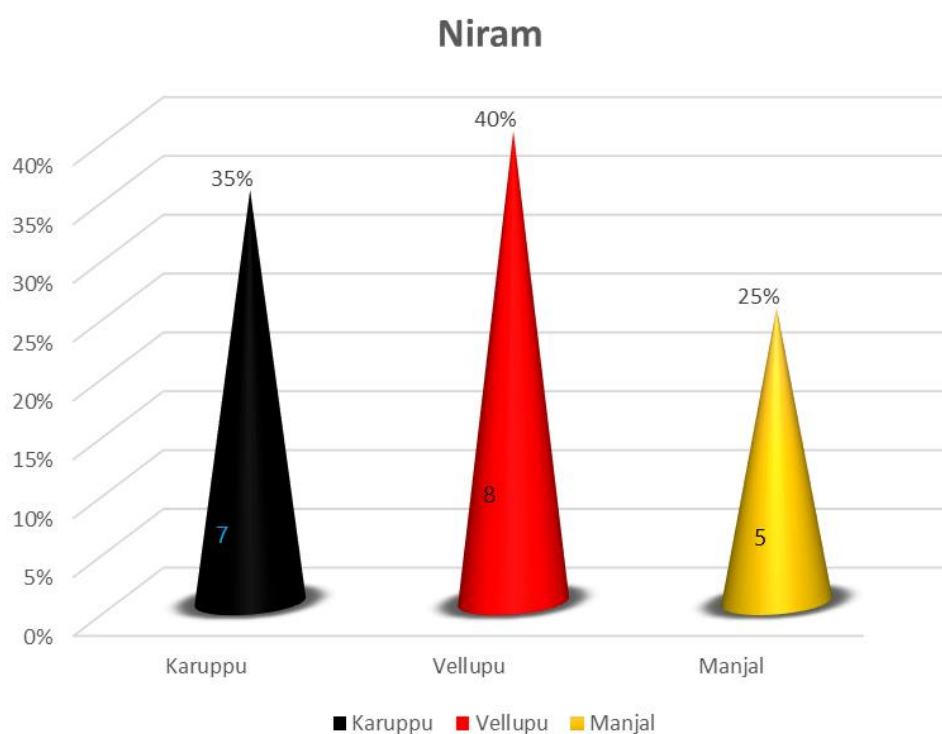


Figure 11.16

OBSERVATION

Out of 20 cases, 8 cases (40%) were of fair complexion, 7 cases (35%) were of black complexion and 5 cases (25%) were of yellowish complexion.

Mozhi (Voice):

Mozhi	No. of cases	Percentage (%)
Thazhantha oli (low pitch)	5	25%
Sama oli (medium pitch)	10	50%
Urattha oli (high pitch)	5	25%
Total	20	100%

Table 11.17

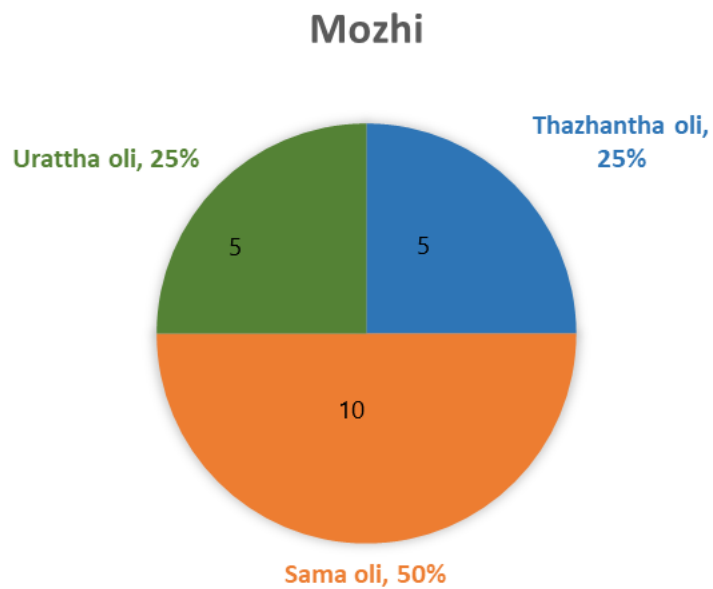


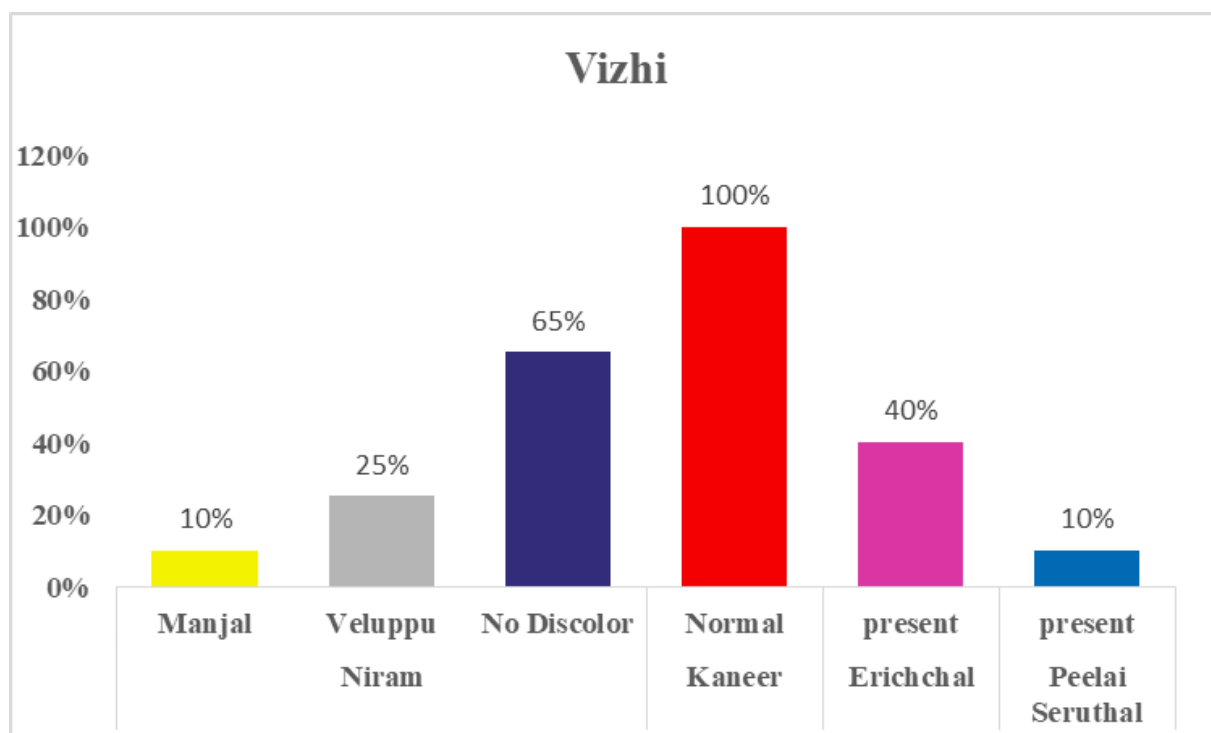
Figure 11.17

OBSERVATION

Out of 20 cases 5 cases (25%) had low pitched voice, 10 cases (50%) had medium pitched voice and 5 cases (25%) had high pitched voice.

Vizhi (Eyes):

Vizhi		No. ofcases	Percentage %
Niram(colour)	Mannjal	2	10%
	Veluppu	5	25%
	No Discolor	13	65%
Kaneer (tears)	Normal	20	100%
Erichchal (burning sensation)	present	8	40%
Peelai Seruthal (excrasence)	present	2	10%
Total		20	100%

Table 11.18**Figure 11.18****OBSERVATION**

Among 20 cases, 5 cases (25%) were of *Veluppu* in *Vizhiy Niram*, 2 cases had yellowish *Vizhi* and 13 cases had normal *Vizhiy niram*, 8 cases (40%) had *kanerichal* (burning sensation) and 2 cases (10%) had *peelai* (discharge).

Naadi (Pulse Play):

Naadi	No. of cases	Percentage (%)
Vatham	0	0%
Pitham	0	0%
Kavam	0	0%
VP	11	55%
VK	1	5%
PV	6	30%
PK	0	0%
KV	0	0%
KP	2	10%
Total	20	100%

Table 11.19

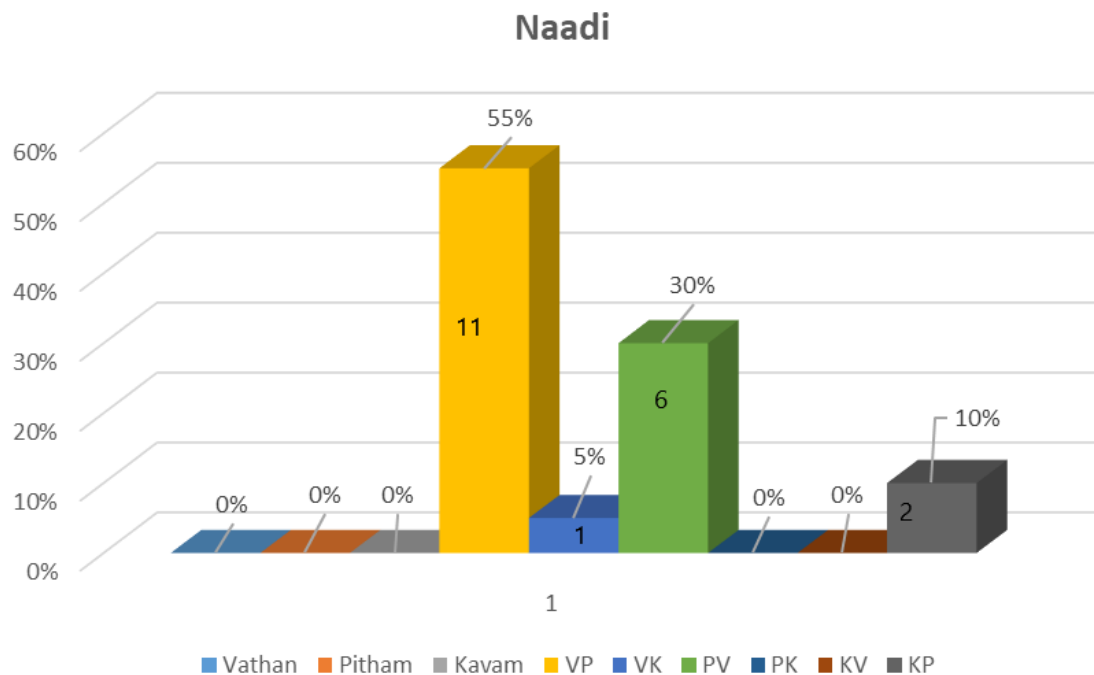


Figure 11.19

OBSERVATION

Out of 20 cases, 11 cases (55%) showed *Vathapitha Naadi*, 6 cases (30%) showed *Pithavatha Naadi*, 2 cases had (10%) showed *Kabapitham* and 1 case (5%) showed *Vathakaba Naadi*.

Sparisam:

Mei Kuri		No. of cases	Percentage %
Veppam(Warmth)	Mitham	18	90%
	Migu	2	10%
	Thatpam	0	0%
Viyarvai (sweat)	Normal	14	70%
	Increased	5	25%
	Reduced	1	5%
Thoduvali(tenderness)	present	6	30%
	absent	14	70%
Total		20	100%

Table 11.20

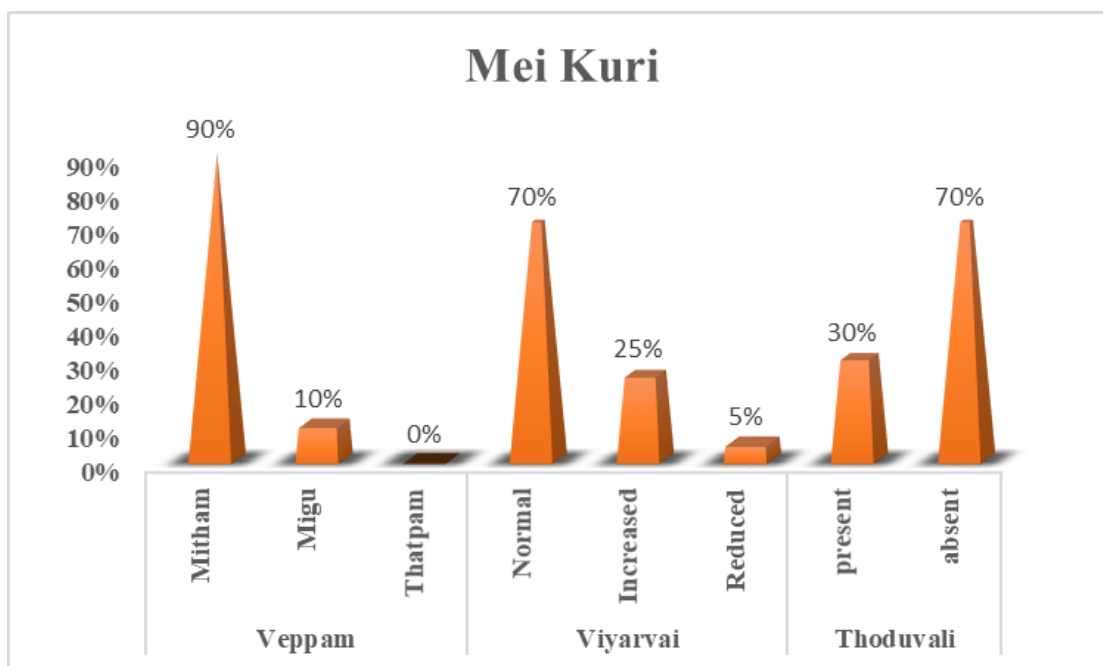


Figure 11.20

OBSERVATION

Among 20 cases, 18 cases (90%) had *mithaveppam* (lukewarm) and 2 cases (10%) had *miguveppam* (increased warmth) in *Meikkuri*. In *viyarvai* 14 cases (70%) had normal sweating, 5 cases (25%) had excess sweating and 1 case (5%) had decreased sweating. 6 cases (30%) had tenderness.

***Malam* (Stools):**

Envagai Thervu		No. of Patients	Percentage %
Malam	Manjal(yellow colour)	20	100%
	Sikkal (constipation)	2	10%
	Sirutthal (reduced stools)	1	5%
	Habitual constipation	1	5%
Total		20	100%

Table 11.21

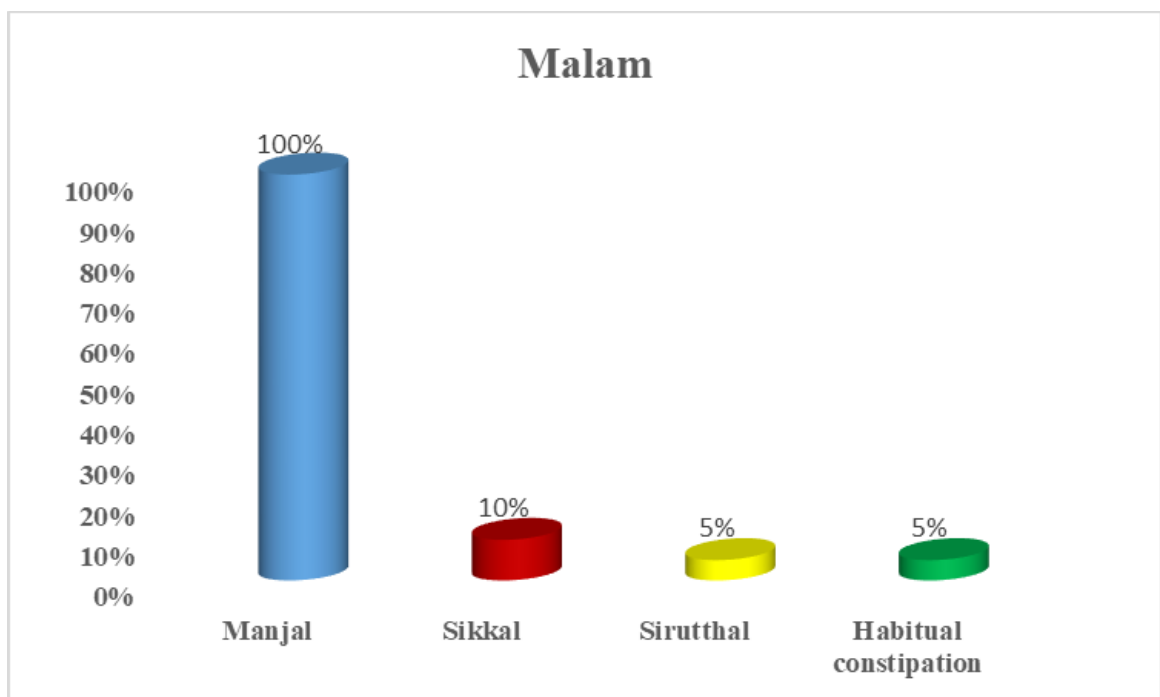


Figure 11.21

OBSERVATION

Among 20 cases, all cases (100%) were of yellow color stools. 2 cases (10%) had *Sikkal* (constipation) 1 case (5%) had *Sirutthal* (reduced stools) and 1 (5%) case had history of habitual constipation.

***Manikkadai Nool* (Wrist circummetric sign):**

Manikkadai Nool	No. of cases	Percentage (%)
8 1/2	0	0%
8 3/4	4	20%
9	5	25%
9 1/4	6	30%
9 1/2	4	20%
9 3/4	1	5%
10	0	0%
11	0	0%
Total	20	100%

Table 11.22

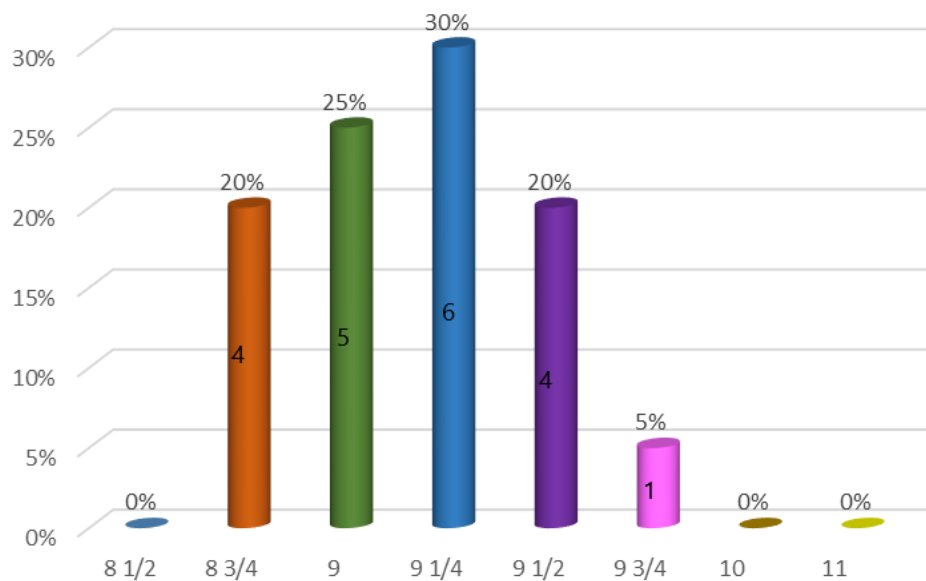


Figure 11.22

OBSERVATION

Among 20 cases, 6 cases (30%) were of 9 1/4 finger breadths, 4 cases (20%) cases were of 9 1/2 finger breadths, 5 cases (25%) were of 9 finger breadths, 4 cases (20%) were of 8 3/4 finger breadths, 1 case (5%) was of 9 3/4 finger breadths.

***Neikkuri* (Oil on urine sign):**

Neikkuri	No. of Cases	Percentage %
Vathapitham	6	30
Pithavatham	7	35
Pitham	7	35
Total	20	100

Table 11.23

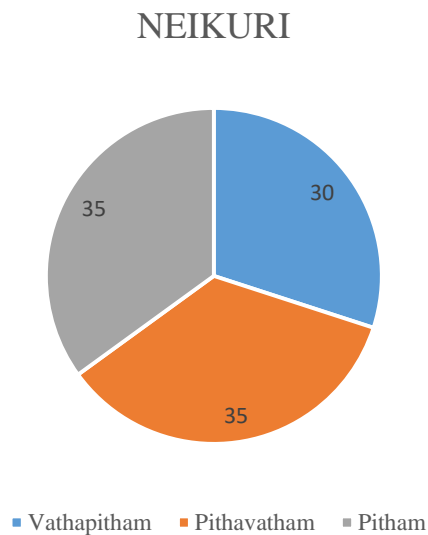


Figure 11.23

OBSERVATION

Among 20 cases, 7 cases (35%) had *Pitham* in Neikkuri pattern, 7 cases (35%) had *Pithavatham* pattern and 6 cases (30%) had *vathapitham* pattern.

Neerkuri:







G 32082	L 45221
	
Yellow colour	Dark Yellow colour
J 85695	L 18005
	
Colourless	Straw colour
K 78979	H 08512
	
Light Yellow colour	Pale Yellow colour

Figure 11.24

Case No: 4

OP No: G 32082

Age/Sex: 36/F

Neikkuri Patterns

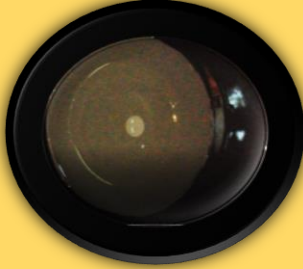




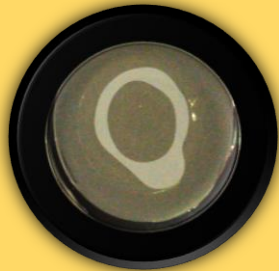
At the moment	At 1 min
	
Pattern: Pearl	Disc
At 5 min	At 10 min
	
Vacuolated sieve	Multiple ring
At 15 min	At 20 min
	
Hook ring	Signet ring

Figure 11.25

INTERPRETATION:

The Sample shows a pattern of *Pitham* at the moment which then changes to vacuolated sieve at 5 minutes i.e *Pithavatham* which turns into Signet ring at 20 minutes which is *Pitham*.

Case No: 18

OP No: L 45221

Age/Sex: 43/F

Neikkuri Patterns

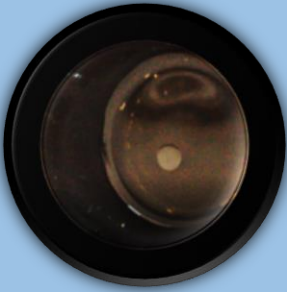
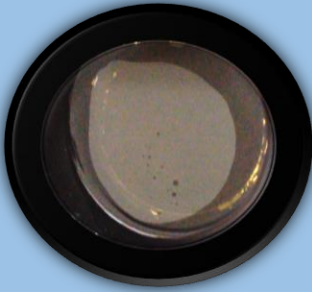
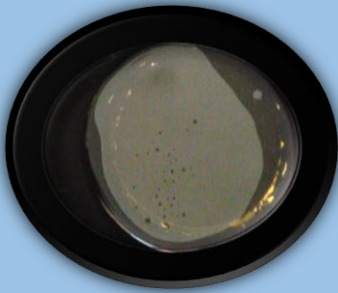
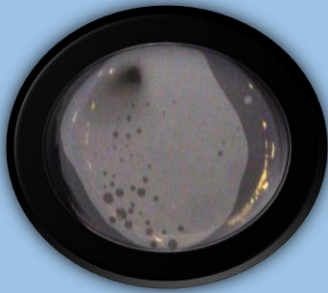
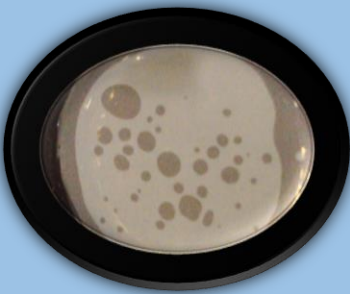
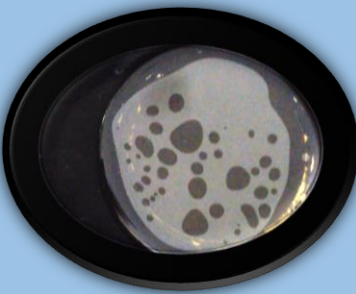
At the moment	At 1min
	
Pearl	Disc
At 5 min	At 10 min
	
Disc	Sieve
At 15 min	At 20 min
	
Vacuolated Seive	Vacuolated Seive

Figure 11.26

INTERPRETATION

The Sample shows a pattern of *Pitham* at the moment which then changes to vacuolated sieve at 15 minutes i.e *Pithavatham* which remains the same upto 20 minutes.

Case No: 11

OP No: L 18005

Age/Sex: 43/F

Neikkuri Patterns

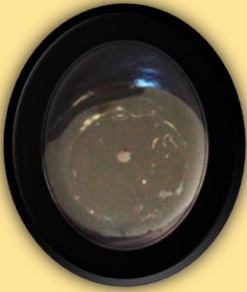
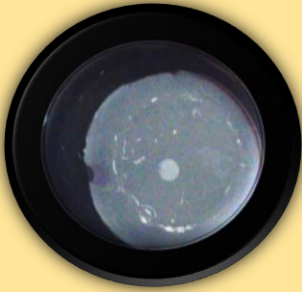
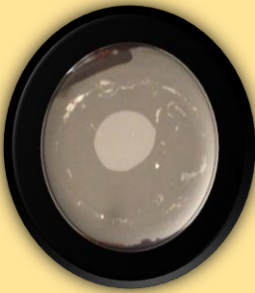
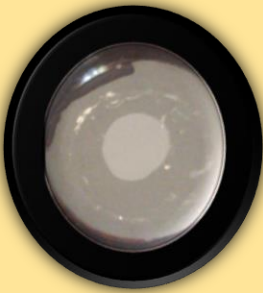

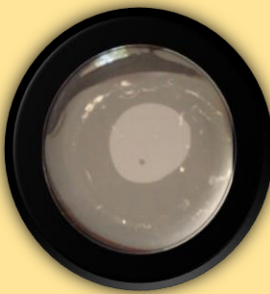
At the moment	At 1 min
	
Pearl	Pearl
At 5 min	At 10 min
	
Coin	Coin
At 15 min	At 20 min
	
Disc	Disc

Figure 11.27

INTERPRETATION

The Sample shows a pattern of *Pitham* at the moment which then changes to coin at 10 minutes i.e *Pitham* and changed into disc at 20 minutes which is *Pitham*.

Case No: 20

OP No: K 78979

Age/Sex: 60/F

Neerkuri Patterns


At the moment	At 1 min
	
Pearl	Disc
At 5 min	At 10 min
	
	Serpentine
At 15 min	At 20 min
	
Serpentine	Serpentine

Figure 11.28

INTERPRETATION:

The Sample shows a pattern of *Pitham* at the moment which then changes to irregular shape i.e *Pithavatham* which remains the same upto twenty minutes.

Case No: 17

OP No: L 07901

Age/Sex: 51/F

Neikkuri Patterns

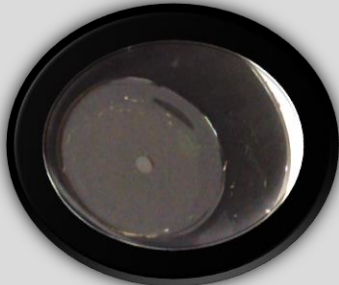
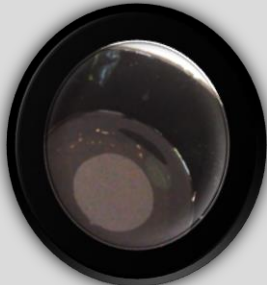
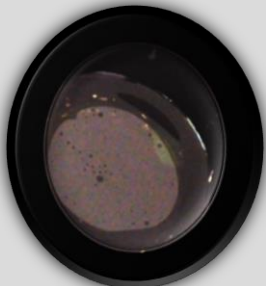
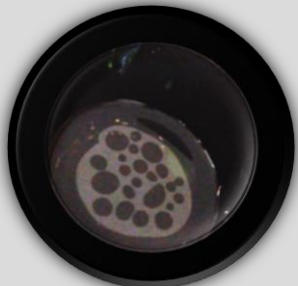
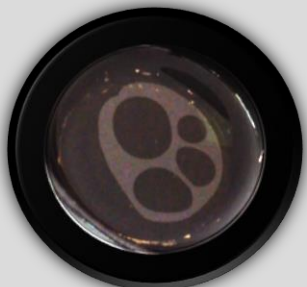
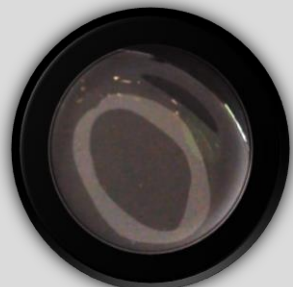
At the moment	At 1 min
	
Pearl	Coin
At 5 min	At 10 min
	
Disc	Vacuolated Seive
At 15 min	At 20 min
	
Multiple ring	Signet ring

Figure 11.29

INTERPRETATION:

The Sample shows a pattern of *Pitham* at the moment which then changes to vacuolated sieve at 10 minutes i.e *Pithavatham* which turns into Signet ring at 20 minutes which is *Pitham*.

Case No: 15

OP No: H 08512

Age/Sex: 60/F

Neikkuri Patterns


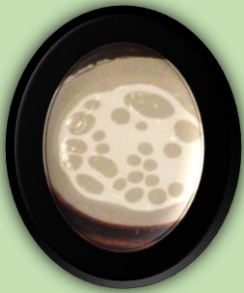

At the moment	At 1 min
	
Pearl	Disc
At 5 min	At 10 min
	
Vacuolated Seive	Serpentine
At 15 min	At 20 min
	
Seperated coins	Seperated coins

Figure 11.30

INTERPRETATION:

The Sample shows a pattern of *Pitham* at the moment which then changes to serpentine i.e *Vatham* in 10 minutes and separated into two coins which is *Pithavatham*.

Lab Results of Patients:

S.No	O.P.No	Lab.No	TC	DC					Hb	ESR	
				P	L	E	M	B		30 min	60 min
1	G 99775	20407	8000	65	33	2	0	0	12.8	16	32
2	L 11369	562	7100	69	27	4	0	0	11	30	60
3	L 14076	944	8400	60	39	1	0	0	13.7	6	12
4	G 32082	413	11600	69	30	1	0	0	9.6	14	30
5	L 21138		10200	71	29	0	0	0	10.4	3	7
6	G 97314	2372	7000	65	33	2	0	0	13.2	20	40
7	H 27720	367	9100	67	30	3	0	0	12.8	54	110
8	L 23875	1012	6900	62	35	3	0	0	9.4	20	42
9	L 22682	2907	5800	60	37	2	0	0	12.1	40	80
10	J 85695	2613	13400	83	13	4	0	0	12.2	64	130
11	L 18005	2649	5000	40	50	10	0	0	12.5	4	8
12	L 22942	2903	6800	63	33	4	0	0	15.2	2	4
13	L 25640	3353	6100	64	33	3	0	0	12.6	12	26
14	K 88419	3406	8700	66	30	4	0	0	12.1	26	52
15	H 08512	5274	5300	66	31	3	0	0	11.2	14	28
16	K 75069	5126	9100	57	39	4	0	0	13		
17	L 07901		8600	65	34	1	0	0	12.1	10	20
18	L 45221	N/A	6200	64	32	3	1	0	12.4	5	11
19	L 49432	7242	8300	77	20	3	0	0	7.8	30	60
20	K 78979	7360	8700	70	26	3	1	0	11.9	24	50

Lab Results of Patients Cont....

S.No	OP No	Blood Glucose		Lipid Profile				RFT	
		F	PP	Total	HDL	LDL	TGL	S.Urea	S.Creat
1	G 99775	100		180	40	91	178	18	0.9
2	L 11369	92	146	230	47	123	153	18	0.8
3	L 14076	91	98	169	38	85	208	15	1.1
4	G 32082	99	150	208	41	116	254	12	0.8
5	L 21138	83	100	180	36	92	115	14	0.7
6	G 97314	94	85	212	49	111	94	23	0.9
7	H 27720	93		214	52	110	108	22	0.9
8	L 23875	88	94	235	50	124	104	23	1
9	L 22682	69	109	235	68	123	132	24	0.8
10	J 85695	81	144	219	55	125	111	13	0.7
11	L 18005	76	75	209	56	109	125	13	0.8
12	L 22942	80	113	217	52	115	152	23	1
13	L 25640	77		229	62	126	128	12	0.7
14	K 88419	122	145	207	67	101	100	26	1
15	H 08512	94	104	249	71	136	81	30	0.8
16	K 75069	109	218	261	52	143	242	25	0.8
17	L 07901	92	134	170	38	120	150	13	0.7
18	L 45221	100	150	176	35	121	100	18	0.9
19	L 49432	93		156	43	87	49	18	0.9
20	K 78979	108	220	280	53	166	133	26	0.9

Lab Results of Patients Cont....

S. N o	OP No	Urine Glucose			Deposits		Temp	PR	HR	RR	BP
		F	PP		Pus	Epi					
1	G 99775	Nil	Nil	Nil	1 to 2	2 to 4	98.2	78	78	17	130/80
2	L 11369	Nil	Trace	Nil	1 to 2	1 to 2	98	76	76	18	110/80
3	L 14076	Nil	Nil	Nil	3 to 4	1 to 2	98.6	80	80	19	130/70
4	G 32082	Nil	Nil	Nil	2 to 4	1 to 2	98.2	72	72	17	110/70
5	L 21138	Nil	Nil	Nil	2 to 4	2 to 3	98.4	74	74	20	110/80
6	G 97314	Nil	Nil	Nil	2 to 4	1 to 2	98	82	82	20	120/70
7	H 27720	Nil	Nil	Nil	1 to 2	1 to 2	98.2	76	78	19	130/80
8	L 23875	Nil	Nil	Nil	2 to 4	2 to 4	97.8	80	80	21	110/70
9	L 22682	Nil	Nil	Nil	3 to 4	1 to 2	98	72	72	18	120/80
10	J 85695	Nil	Nil	Nil	2 to 3	2 to 4	98.4	80	80	18	90/60
11	L 18005	Nil	Nil	Nil	2 to 3	2 to 4	98.2	76	76	19	130/80
12	L 22942	Nil	Nil	Nil	1 to 2	2 to 4	98.8	74	76	20	110/70
13	L 25640	Nil	Nil	Nil	2 to 3	1 to 2	98	76	76	18	110/70
14	K 88419	Nil	Nil	Nil	2 to 4	1 to 2	98	76	76	18	110/80
15	H 08512	Nil	Nil	Nil	2 to 3	1 to 2	98.6	78	80	18	140/80
16	K 75069	Nil		Nil	1 to 2	1 to 2	98	76	78	17	120/70
17	L 07901	Nil	Nil	Nil	3 to 5	2 to 3	97.6	70	70	18	100/70
18	L 45221	Nil	Nil	Nil	2 to 4	1 to 2	98.4	78	78	20	130/80
19	L 49432	Nil	Nil	Nil	3 to 5	1 to 2	98.2	76	76	21	140/90
20	K 78979	Nil	Nil	Nil	1 to 2	1 to 2	98	74	74	19	140/70

Karnaavartham is described by Sage Yugi in *Yugi Vaithya Chinthamani* – 800 which may be correlates with cervical radiculopathy. The author had selected 20 patients with complaints of neck pain in the Outpatient Department of National Institute of Siddha and those cases were enrolled in the study and observed for symptoms and signs.

Distribution of cases by Age group

Out of 20 cases, 5 cases (25%) fell under the group of 31-40 years of age, 11 cases (55%) fell under group of 41-50 years of age and 4 cases (20%) fell under the group of 51-65 years of age. In this study the maximum number of cases (35%) fell under 41-50 years of age group. This shows that the prevalence of *Karnaavartham* is most in the middle age categories.

Distribution of cases by Diet:

Among 20 cases, 17 (85%) cases were being in mixed diet and 3 (15%) cases were vegetarian. Most of them were non vegetarians because non vegetarians were more prevalent in general population. Non-vegetarian diet is considered as *Thamo Gunam*. Food seems to alter the body, mind and soul.

Distribution of cases by Paruvakaalam (seasons):

Among 20 cases, 9 cases (35%) had been affected at *Munpani kaalam* (*Maargali, Thai*), 6 cases (30%) had been affected at *Pinpani kaalam* (*Maasi, Panguni*) and 5 cases (25%) had been affected at *Ilavenil Kaalam* (*Chithirai, Vaigasi*). No specific inference could be made out in this study from the examination of *Kaalam*.

Distribution of cases by Thinai (Land):

Out of 20 cases, 16 cases (80%) had been affected in *Marutha Nilam*, 4 case (20%) had been affected in *Neithal Nilam*.

As per the text *Padhartha Guna Chinthamani*, *Marutham* is the land for human survival without any diseases and the deranged humours also become normal. But most of the cases reported in this study were residing in *Marutha Nilam* that may be due to modified lifestyle of the people and polluting land and its surroundings.

Distribution of cases by Gnanenthiriyangal:

Among 20 cases, *Mei* had been affected for 2 cases (10%) as a result of burning sensation. According to Siddha Literature, skin is composed of *Vaayu bootham* and it is responsible for perception.

Distribution of cases by *Kanmentheriyangal*:

In *Kanmentheriyangal*, *Kai* was affected for all the 20 (100%) cases, as they had radiating pain. According to Siddha Literature, *Kai* (upper limb) is the dwelling place of *Thee Bootham*, and helps in movements. *Kaal* (lower limb) was affected in 2 (10%) cases.

Distribution of cases by *Uyir Thathukkal***Derangement in *Vatha kutram***

Out of 20 cases, all the cases (100%) had derangement in *Samanan*, *Viyanan* and *Devathathan*. *Viyanan* is responsible for movements and it is affected as there is abnormality in the neck movements. *Samanan* is responsible for neutralization of other 4 *vali*. It is affected because derangement of other *vali*. *Devathathan* is responsible for tiredness of the body. 2 cases (10%) had derangement in *Abanan*.

Derangement in *Pitha kutram*

Out of 20 cases, all of them (100%) had derangement in *Saathaga Pitham*. *Saathagam* is the killer instinct (fire of energy) to do work, it affects and resulting unable to do work during stiffness and pain in the nape of neck. 1 case (5%) had derangement in *Ranjaga Pitham*, 1 case (5%) had derangement in *Anala Pitham*. *Analagam* is the fire for digestion, it gets affected and resulting in anorexia, *Ranjagam* is the fire promoting blood, it affects and resulting in anemia.

Derangement in *Kaba kutram*:

Of the 20 cases, all of them (100%) had derangement in *Santhigam*. *Santhigam* is located in joints and it causes pain and stiffness when gets affected. 1 case (5%) had derangement in *avalambagam*.

Distribution of cases by *Udal Thathukkal*:

Among the seven somatic components of 20 cases, all the 20 cases (100%) had their *Saaram* affected. Derangement of *Udal thathukkal* is the initial stage for any disease. In this study *Saaram* is affected in all patients of *Karnaavartham* which leads to Anorexia, Pallor, sour taste in the tongue and which may be a significant finding of affected *Udal Thathukkal*. 19 cases (95%) had affected *Enbu*. One case has affected *Oon* and one case had affected *Senneer*

Distribution of cases by *Thegiyin niram* (complexion):

Out of 20 cases, 7 cases (35%) were of dark complexion, 5 cases (25%) were of yellowish complexion and 8 cases (40%) were of fair complexion. No specific inference could be made out in this study from the examination of *Niram*

Distribution of cases by Naadi (pulse play):

Out of 20 cases, 11 cases (55%) had *Vathapitham*, 6 cases (30%) had *Pithavatham*, 2 cases (10%) had *Kabapitham* and 1 case (5%) had *Vathakabam*. In this study most of the cases had *Vathapitham naadi*. From this it is hypothesized that *Vathapitham naadi* may be prominent in *Karnaavartham* patients.

Distribution of cases by Sparisam:

Among 20 cases, 18 cases (90%) had *Mitha veppam* (Lukewarm) in *meikkuri* and 2 cases (10%) had *migu veppam* (Increased Warmth). In *viyarvai* 14 cases (70%) had normal sweating, 5 cases (25%) had excess sweating and 1 case had decreased sweating. 6 cases had tenderness.

Distribution of cases by Naa (Tongue):

Among 20 cases, 7 cases (35%) had yellow pigmented tongue, 2 cases (20%) had black pigmented tongue and 11 cases (55%) had Pallor in tongue.

In 20 cases, 12 cases (60%) had sweet taste, 3 cases (15%) had sour taste, and 5 cases (25%) had bitter taste of the tongue. Of 20 cases, 4 case (20%) had excessive salivation, 16 cases (80%) had normal salivation. In this study most of the cases, had no specific taste felt in the tongue. No specific inference could be made from this.

Distribution of cases by Mozhi (voice):

Out of 20 cases, 5 cases (25%) had low pitched voice, 10 cases (50%) had medium pitched voice and 5 cases (25%) had high pitched voice. As per the Siddha Literature, patients of *Vatha* diseases are said to have medium pitched voice. In this study 50% of cases had medium pitched voice. No specific inference could be made from this.

Distribution of cases by Vizhi (Eyes):

Among 20 cases, 5 cases (25%) were *Veluppu* in *Vizhiy Niram*, 2 cases had yellowish *Vizhi* and 13 cases had normal *Vizhiy niram*, 8 cases (40%) had *kanerichal* (burning sensation) and 2 cases (10%) had *peelai* (Excrescence). No specific inference could be made from this.

Distribution of cases by Malam (stools):

All the cases had (100%) yellow color stools. 2 cases (10%) had *Sikkal*, 1 case (5%) had *Siruthal* and 1 (5%) case had history of habitual constipation. No specific inference could be made from this.

Distribution of cases by Neikkuri (Oil on Urine sign):

Of the 20 cases, 7 cases (35%) had been *Pitham* in *Neikkuri* pattern, 7 cases (35%) had been *Pithavatham* pattern and 6 cases (30%) had been *Vathapitham* pattern.

All the cases had *Pitham* humor affected in any one form.

Distribution of cases by *Manikkadai Nool* (wrist circummetric sign):

Among 20 cases, 6 cases (30%) were of 9 1/4 finger breadths, 4 cases (20%) cases were of 9 1/2 finger breadths, 5 cases (25%) were of 9 finger breadths, 4 cases (10%) were of 8 3/4 finger breadths, 1 case (5%) was of 9 3/4 finger breadths.

Majority of the cases (75%) were between 9 to 9 1/2 finger breadths in *Manikkadai Nool*. As per Siddha text of *Manikkadai Nool* there is no indication for *Karnaavartham*. Therefore the patients with the range of 9-9 1/2 wrist circummetric finger breadth may be considered to have a predilection to develop *Karnaavartham*. Such people may be advised to follow the precautionary steps to avoid the development of *Karnaavartham* as preventive measure.

All the signs and symptoms mentioned by Sage Yugi about *Karnaavartham* are found in the cases of cervical radiculopathy consistently, MRI reports of some cases were recorded with changes in the upper cervical roots. Therefore the diagnosis cervical radiculopathy may considered equivalent to that of *Karnaavartham* mentioned in *Yugi Vaithiya Chinthamani* – 800.

13. CONCLUSION

Karnaavartham clinical entity was described by Sage Yugi. The study conducted on *Karnaavartham* correlating with cervical radiculopathy has come out with good results validating the clinical features of *Karnaavartham* in the poetic segment by Sage Yugi.

The study was aimed at evolving a set of exclusive Siddha diagnostic findings for *Karnaavartham* with the observation and inference of various parameters like *Naadi*, *Neikkuri* and disease acquired season, it can be concluded that all of them point to the development or vitiation of humors leading to the disease. The patients reported with symptoms of *Karnaavartham* were subjected to the standard set of investigations, the results and findings were observed. *Manikadai Nool* and *Neikkuri* findings may help in the identifying of preponderance in a person to develop *Karnaavartham*. Hence it can be used as a screening measure to advice the preventive measures in advance.

From the analysis done among the patients of *Karnaavartham*, notable variations were observed in both Siddha and Modern parameters. It was found that the symptoms of the patients presented in the study were those of constant subset of symptoms present in cervical radiculopathy explained in the modern classification. It correlate with all the symptoms mentioned by Sage Yugi under *Karnaavartham*. Thus the author concludes the validation of symptomatology and diagnostic methodology for *Karnaavartham*, so that a physician can arrive at proper treatment procedures by rightly diagnosing the disease.

14. BIBLIOGRAPHY

1. Yugi Vaithiya Chinthamani - 800, Pg No-128, Publisher-Indian medicine and Homeopathy department.
2. Siddha Maruthuvanga Surukkam, C.S.Uthmarayan H.P.I.M, 3rd edition-2006.
3. Noinaadal noimudhal naadal thirattu part-I, Dr.M.Sanmugavelu, H.B.I.M, 5th edition 2009, Published by Indian medicine - Homeopathy department, Chennai - 600106.
4. Dr. Sowntharrasan M, Siddha Maruthuva Sudar (Saraswathy Mahal, Thanjavur, Feb. 2007), 5th Edition.
5. Dr.Kuppusamay N, Siddha Vaidhya Thirattu (Indian Medicine and Homeopathy Department, Chennai, 2009), 1st Edition, 169-209.
6. Sambasivam Pillai T V, Tamil-English Dictionary (The Research Institute of Siddhars Science, Chennai, 1991), 2nd edition, Vol. I-VI.
7. Ramachandran S P, Theraiyar Neerkkuri Vaithiyam (Thamarai Noolagam, Chennai, June 2000), 1st edition, 1-31.
8. Mohan R C, Yugi Vaidhya Kaviyam (Thamarai Noolagam, Chennai, March 2002), 1st edition, 42-43.
9. Ramachandran S P, Agathiyar Vaidhya Chinthamani (Thamarai Noolagam, Chennai, March 1996), 1st edition, 1st part, 52.
10. Prema S, Agathiyar Vaidhya Chinthamani (Thamarai Noolagam, Chennai, Sep. 2006), 2nd edition, 2nd part, 290-291.
11. Chidambarathanu pillai S, Vaatha Noi Maruthuvam (Siddha Medical Literature Research Centre, Chennai, June 2005), 1st edition, 1-41, 164-167.
12. Chidambarathanu pillai S, Siddha Maruthuva Noi Vagaigalum Thanmaigalum (Siddha Maruthuva Nool Aaraichi Nilayam, Chennai, March 1999), 2nd Edition, 99-110.
13. Gray's Anatomy, Edition-39th, Editors-Barry KB Berovitz BDS,Neil R Borley FRCS (Ed)MS,Alan R Crossman Bsc PhD Dsc,Mark s Davies MBBS FRCS (ortho).
14. Manual of practical Medicine, 4th edition, edited by R.Alagappan, 2011
15. Mark Dutton, PT, Orthopaedic Examination, Evaluation, and Intervention, Second Edition, 2008.
16. Inderbir Singh, Atlas of Human Anatomy, Anshan Ltd, 2005.
17. Richard S. Snell, MD, PhD, Clinical Anatomy by Regions, First Edition Reprint, 2008, 771

18. Gary S. Firestein, MD, Ralph C. Budd, MD, Sherine E. Gabriel, MD, MSc, Lain B. McInnes, PhD, FRCP, FRSE, James R. O'Dell, MD, Kelly's Textbook of Rheumatology, Ninth Edition, 2013.
19. Christophen Haslett, Edwin R. Chilvers, Nicholas A. Boon, Nicki R. Colledge. Davidson's principle and practice of medicine, Edition - 19th.
20. Dennis L. Kasper MD, Eugene Braunwald MD, Anthony S. Fauci MD, Stephen L. Hauser MD, Dan. L. Longo MD, J. Larry Jameson MD, Harrison's principle of internal medicine,

FORM II

CLINICAL ASSESSMENT

1. Serial No: _____

2. Name: _____

3. Date of birth:

--	--

--	--

--	--	--	--

D D M M Y E A R

4. Age: _____ years

5. Date: _____

GENERAL EXAMINATION:

1. Height: _____ cm. BMI _____ (Weight Kg/ Height m²)

2. Weight (kg):

3. Temperature (°F):

4. Pulse rate:

5. Heart rate:

6. Respiratory rate:

7. Blood pressure:

8. Pallor:

9. Jaundice:

10. Cyanosis:

11. Lymphadenopathy:

12. Pedal edema:

13. Clubbing:

14. Jugular vein pulsation:

VITAL ORGANS EXAMINATION

	1. Normal	2. Affected	
1. Heart	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Lungs	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Brain	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Liver	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Kidneys	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Spleen	<input type="checkbox"/>	<input type="checkbox"/>	_____
7. Stomach	<input type="checkbox"/>	<input type="checkbox"/>	_____

SYSTEMIC EXAMINATION:

1. Cardio Vascular System	_____
2. Respiratory System	_____
3. Gastrointestinal System	_____
4. Central Nervous System	_____
5. Urogenital System	_____
6. Endocrine System	_____

SIDDHA SYSTEM OF EXAMINATION

[1]. NOIUTRA KALAM

1. Kaarkaalam
(Aug15-Oct14)

☐

2. Koothirkaalam
(Oct15-Dec14)

☐

3. Munpanikaalam
(Dec15-Feb14)

☐

4. Pinpanikaalam
(Feb15-Apr14)

☐

5. Ilavanirkaalam
(Apr15-June14)

☐

6. Muthuvenirkaalam
(June15-Aug14)

☐

[2]. NOI UTRA NILAM

1. Kurunji
(Hilly terrain)

☐

2. Mullai
(Forest range)

☐

3. Marutham
(Plains)

☐

4. Neithal
(Coastal belt)

☐

5. Paalai
(Desert)

☐

[3]. IYMPORIGAL /IYMPULANGAL (Penta sensors and its modalities)

1. Normal

2. Affected

1. Mei (skin)

☐☐

2. Vaai (Mouth/ Tongue)

☐☐

3. Kan (Eyes)

☐☐

4. Mookku (Nose)

☐☐

5. Sevi (Ears)

☐☐

[4]. KANMENTHIRIYANGAL /KANMAVIDAYANGAL (Motor machinery and its execution)

1. Normal

2. Affected

1. Kai (Hands)

☐☐

2. Kaal (Legs)

☐☐

3. Vaai (Mouth)

☐☐

4. Eruvai (Anal)	<input type="checkbox"/>	<input type="checkbox"/>
5. Karuvaai (Birth canal)	<input type="checkbox"/>	<input type="checkbox"/>

[5] UYIR THATHUKKAL

A. VALI

	1. Normal	2. Affected
1. Praanan (Heart centre)	<input type="checkbox"/>	<input type="checkbox"/>
2. Abaanan (Matedial of muladhar centre)	<input type="checkbox"/>	<input type="checkbox"/>
3. Samaanan (Navel centre)	<input type="checkbox"/>	<input type="checkbox"/>
4. Udhaanan (Forehead centre)	<input type="checkbox"/>	<input type="checkbox"/>
5. Viyaanan (Throat centre)	<input type="checkbox"/>	<input type="checkbox"/>
6. Naahan (Higher intellectual function)	<input type="checkbox"/>	<input type="checkbox"/>
7. Koorman (Air of yawning)	<input type="checkbox"/>	<input type="checkbox"/>
8. Kirukaran (Air of salivation)	<input type="checkbox"/>	<input type="checkbox"/>
9. Devathathan (Air of laziness)	<input type="checkbox"/>	<input type="checkbox"/>
10. Dhananjeyan (Air that acts on death)	<input type="checkbox"/>	<input type="checkbox"/>

B. AZHAL

	1. Normal	2. Affected
1. Anala pittham (Gastric juice)	<input type="checkbox"/>	<input type="checkbox"/>
2. Prasaka pittham (Bile)	<input type="checkbox"/>	<input type="checkbox"/>
3. Ranjaka pittham (Haemoglobin)	<input type="checkbox"/>	<input type="checkbox"/>
4. Aalosaka pittham (Aqueous Humour)	<input type="checkbox"/>	<input type="checkbox"/>
5. Saathaka pittham (Life energy)	<input type="checkbox"/>	<input type="checkbox"/>

C. IYYAM

	1. Normal	2. Affected
1. Avalambagam (Serum)	<input type="checkbox"/>	<input type="checkbox"/>
2. Kilethagam (saliva)	<input type="checkbox"/>	<input type="checkbox"/>
3. Pothagam (lymph)	<input type="checkbox"/>	<input type="checkbox"/>
4. Tharpagam (cerebrospinal fluid)	<input type="checkbox"/>	<input type="checkbox"/>
5. Santhigam (Synovial fluid)	<input type="checkbox"/>	<input type="checkbox"/>

[6] GUNAM

1. Sathuva Gunam ☐ 2. Rajo Gunam ☐ 3. Thamo Gunam ☐

[6] UDAL THATHUKKAL

INCREASED SAARAM (CHYLE)	DECREASED SAARAM(CHYLE)
Loss of appetite <input type="checkbox"/>	Loss weight <input type="checkbox"/>
Excessive salivation <input type="checkbox"/>	Tiredness <input type="checkbox"/>
Loss of perseverance <input type="checkbox"/>	Dryness of the skin <input type="checkbox"/>
Excessive heaviness <input type="checkbox"/>	Diminished activity of the sense organs <input type="checkbox"/>
White musculature <input type="checkbox"/>	
Cough, dyspnea, excessive sleep <input type="checkbox"/>	
Weakness in all joints of the body <input type="checkbox"/>	

A. SAARAM: INCREASED ☐ DECREASED ☐

INCREASED CENNEER(BLOOD)	DECREASED CENNEER(BLOOD)
Boils in different parts of the body <input type="checkbox"/>	Anemia <input type="checkbox"/>
Anorexia <input type="checkbox"/>	Tiredness <input type="checkbox"/>
Mental disorder <input type="checkbox"/>	Neuritis <input type="checkbox"/>
Splenomegaly <input type="checkbox"/>	Lassitude <input type="checkbox"/>
Colic pain <input type="checkbox"/>	Pallor of the body <input type="checkbox"/>
Increased pressure <input type="checkbox"/>	
Reddish eye and skin <input type="checkbox"/>	
Jaundice <input type="checkbox"/>	

Hematuria <input style="float: right;" type="checkbox"/>	
----------------------------------------------------------	--

B. CENNEER: INCREASED ☐ DECREASED ☐

INCREASED OON (MUSLE)	DECREASED OON (MUSLE)
Cervical lymphadenitis <input style="float: right;" type="checkbox"/>	Impairment of sense organs <input style="float: right;" type="checkbox"/>
Varicose ulcer <input style="float: right;" type="checkbox"/>	Joint pain <input style="float: right;" type="checkbox"/>
Tumors in face ,abdomen, thigh, genitalia <input style="float: right;" type="checkbox"/>	Jaw, thigh and genitalia gets shortened <input style="float: right;" type="checkbox"/>
Hyper muscular in the cervical region <input style="float: right;" type="checkbox"/>	

C. OON: INCREASED ☐ DECREASED ☐

INCREASED KOZHUPPU (ADIPOSE TISSUE)	DECREASED KOZHUPPU (ADIPOSE TISSUE)
----------------------------------------	----------------------------------------

Cervical lymph adenitis	<input type="checkbox"/>	Pain in the hip region	<input type="checkbox"/>
Varicose ulcer	<input type="checkbox"/>	Disease of the spleen	<input type="checkbox"/>
Tumors in face, abdomen, thigh, genitalia	<input type="checkbox"/>		
Hyper muscular in the cervical region	<input type="checkbox"/>		
Dyspnea	<input type="checkbox"/>		
Loss of activity	<input type="checkbox"/>		

D. KOZHUPPU: INCREASED ☐ DECREASED ☐

INCREASED ENBU (BONE)	DECREASED ENBU (BONE)
Growth in bones and teeth <input type="checkbox"/>	Bones diseases <input type="checkbox"/>
	Loosening of teeth <input type="checkbox"/>
	Nails splitting <input type="checkbox"/>
	Falling of hair <input type="checkbox"/>

E. ENBU: INCREASED ☐ DECREASED ☐

INCREASED MOOLAI (BONE MARROW)	DECREASED MOOLAI (BONE MARROW)
-----------------------------------	-----------------------------------

Heaviness of the body	<input type="checkbox"/>	Osteoporosis	<input type="checkbox"/>
Swollen eyes	<input type="checkbox"/>	Sunken eyes	<input type="checkbox"/>
Swollen phalanges	<input type="checkbox"/>		
chubby fingers	<input type="checkbox"/>		
Oliguria	<input type="checkbox"/>		
Non healing ulcer	<input type="checkbox"/>		

F. MOOLAI: INCREASED ☐ DECREASED ☐

INCREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)	DECREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)
Infatuation and lust towards women / men	Failure in reproduction
Urinary calculi	Pain in the genitalia

G. SUKKILAM/SURONITHAM: INCREASED ☐ DECREASED ☐

[7]. YAKKAI (SOMATIC TYPES)

Vatha constitution	Pitha constitution	Kaba constitution
--------------------	--------------------	-------------------

Lean and lanky built <input type="checkbox"/>	Thin covering of bones and joints by soft tissue <input type="checkbox"/>	Lumpy joints and limbs <input type="checkbox"/>
Hefty proximities of limbs <input type="checkbox"/>	Always found with warmth, sweating and offensive body odor <input type="checkbox"/>	Broad forehead and chest <input type="checkbox"/>
Cracking sound of joints on walking <input type="checkbox"/>	Wrinkles in the skin <input type="checkbox"/>	Sparkling eyes with clear sight <input type="checkbox"/>
Dark and thicker eye lashes <input type="checkbox"/>	Red and yellow admixed complexion <input type="checkbox"/>	Lolling walk <input type="checkbox"/>
Dark and light admixed complexion <input type="checkbox"/>	Easily suffusing eyes due to heat and alcohol <input type="checkbox"/>	Immense strength despite poor eating <input type="checkbox"/>
Split hair <input type="checkbox"/>	Sparse hair with greying <input type="checkbox"/>	High tolerance to hunger, thirst and fear <input type="checkbox"/>
Clear words <input type="checkbox"/>	Intolerance to hunger, thirst and heat <input type="checkbox"/>	Exemplary character with good memory power <input type="checkbox"/>
Scant appetite for cold food items <input type="checkbox"/>	Inclination towards perfumes like sandal <input type="checkbox"/>	More liking for sweet taste <input type="checkbox"/>
Poor strength despite much eating <input type="checkbox"/>	Slender eye lashes <input type="checkbox"/>	Husky voice <input type="checkbox"/>
Loss of libido <input type="checkbox"/>	Pimples and moles are plenty <input type="checkbox"/>	
In generosity <input type="checkbox"/>		
Sleeping with eyes half closed <input type="checkbox"/>		

RESULTANT SOMATIC TYPE: _____

[8] ENVAGAI THERVU [EIGHT-FOLD EXAMINATION]

I. NAADI (KAI KURI) (RADIAL PULSE READING)

(a) Naadi Nithanam (Pulse Appraisal)

1. Kalam (Pulse reading season)

- | | | | |
|-------------------------------------|--------------------------|--------------------------------------|--------------------------|
| 1. Kaarkaalam
(Rainy season) | <input type="checkbox"/> | 2. Koothirkaalam
(Autumn) | <input type="checkbox"/> |
| 3. Munpanikaalam
(Early winter) | <input type="checkbox"/> | 4. Pinpanikaalam
(Late winter) | <input type="checkbox"/> |
| 5. Ilavenirkaalam
(Early summer) | <input type="checkbox"/> | 6. Muthuvenirkaalam
(Late summer) | <input type="checkbox"/> |

2. Desam (Climate of the patient's habitat)

- | | | | |
|-------------------------|--------------------------|--------------------|--------------------------|
| 1. Kulir
(Temperate) | <input type="checkbox"/> | 2. Veppam
(Hot) | <input type="checkbox"/> |
|-------------------------|--------------------------|--------------------|--------------------------|

- | | | | | | | |
|------------------|------------|--------------------------|-------------|--------------------------|-----------|--------------------------|
| 3. Vayathu (Age) | 1. 1-33yrs | <input type="checkbox"/> | 2. 34-66yrs | <input type="checkbox"/> | 3. 67-100 | <input type="checkbox"/> |
|------------------|------------|--------------------------|-------------|--------------------------|-----------|--------------------------|

4. Udal Vanmai (General body condition)

- | | | | | | |
|------------------------------|--------------------------|-----------------------|--------------------------|---------------------|--------------------------|
| 1. Iyyalbu
(Normal built) | <input type="checkbox"/> | 3. Valivu
(Robust) | <input type="checkbox"/> | 4. Melivu
(Lean) | <input type="checkbox"/> |
|------------------------------|--------------------------|-----------------------|--------------------------|---------------------|--------------------------|

5. Vanmai (Expansile Nature)

- | | | | |
|-----------|--------------------------|-----------|--------------------------|
| 1. Vanmai | <input type="checkbox"/> | 2. Menmai | <input type="checkbox"/> |
|-----------|--------------------------|-----------|--------------------------|

6. Panbu (Habit)

- | | | | | | |
|------------------------------|--------------------------|-------------------------------|--------------------------|----------------------------|--------------------------|
| 1. Thannadai
(Playing in) | <input type="checkbox"/> | 2. Puranadai
(Playing out) | <input type="checkbox"/> | 3. Illaitthal
(Feeble) | <input type="checkbox"/> |
| 4. Kathithal
(Swelling) | <input type="checkbox"/> | 5. Kuthithal
(Jumping) | <input type="checkbox"/> | 6. Thullal
(Frisking) | <input type="checkbox"/> |
| 7. Azhutthal
(ducking) | <input type="checkbox"/> | 8. Padutthal
(Lying) | <input type="checkbox"/> | 9. Kalatthal
(Blending) | <input type="checkbox"/> |

10. Munnokku (Advancing) ☐ 11. Pinnokku (Flinching) ☐ 12. Suzhalal (Revolving) ☐
13. Pakkamnokku (Swerving) ☐

(b) Naadi nadai (Pulse Play)

1. Vali ☐ 2. Azhal ☐ 3. Iyyam ☐
4. Vali Azhal ☐ 5. Azhal Vali ☐ 6. Iyya Vali ☐
7. Vali Iyyam ☐ 8. Azhal Iyyam ☐ 9. Iyya Azhal ☐

II.NAA (TONGUE)

1. Maa Padinthiruthal (Coatedness) 1.Present ☐ 2. Absent ☐
2. Niram (Colour) 1.Karuppu (Dark) ☐ 2. Manjal (Yellow) ☐ 3. Velluppu (Pale) ☐
3. Suvai (Taste sensation) 1.Pulippu (Sour) ☐ 2. Kaippu (Bitter) ☐ 3. Inippu (Sweet) ☐
4. Vedippu (Fissure) 1. Absent ☐ 2. Present ☐
5. Vai neer oorai (Salivation) 1.Normal ☐ 2. Increased ☐ 3.Reduced ☐

III.NIRAM (COMPLEXION)

1. Karuppu (Dark) ☐ 2.Manjal (Yellowish) ☐ 3.Velluppu (Fair) ☐

IV. MOZHI (VOICE)

1. Sama oli (Medium pitched) ☐ 2 Urattha oli (High pitched) ☐ 3.Thazhantha oli (Low pitched) ☐

V. VIZHI (EYES)

1. Niram (Venvizhi) (Discolouration)

- | | | | |
|----------------------|--------------------------|------------------------|--------------------------|
| 1. Karuppu
(Dark) | <input type="checkbox"/> | 2. Manjal
(Yellow) | <input type="checkbox"/> |
| 3. Sivappu
(Red) | <input type="checkbox"/> | 4. Velluppu
(White) | <input type="checkbox"/> |
| 5. No Discoloration | <input type="checkbox"/> | | |

2. Kanneer (Tears)

- | | | | | | |
|-----------|--------------------------|--------------|--------------------------|------------|--------------------------|
| 1. Normal | <input type="checkbox"/> | 2. Increased | <input type="checkbox"/> | 3. Reduced | <input type="checkbox"/> |
|-----------|--------------------------|--------------|--------------------------|------------|--------------------------|

3. Erichchal (Burning sensation)

- | | | | |
|------------|--------------------------|-----------|--------------------------|
| 1. Present | <input type="checkbox"/> | 2. Absent | <input type="checkbox"/> |
|------------|--------------------------|-----------|--------------------------|

4. Peelai seruthal (Mucus excrements)

- | | | | |
|------------|--------------------------|-----------|--------------------------|
| 1. Present | <input type="checkbox"/> | 2. Absent | <input type="checkbox"/> |
|------------|--------------------------|-----------|--------------------------|

VI. MEI KURI (PHYSICAL SIGNS)

1. Veppam (Warmth)

- | | | | | | |
|---------------------|--------------------------|-----------------------|--------------------------|---------------------|--------------------------|
| 1. Mitham
(Mild) | <input type="checkbox"/> | 2. Migu
(Moderate) | <input type="checkbox"/> | 3. Thatpam
(Low) | <input type="checkbox"/> |
|---------------------|--------------------------|-----------------------|--------------------------|---------------------|--------------------------|

2. Viyarvai (Sweat)

- | | | | | | |
|--------------|--------------------------|-----------|--------------------------|------------|--------------------------|
| 1. Increased | <input type="checkbox"/> | 2. Normal | <input type="checkbox"/> | 3. Reduced | <input type="checkbox"/> |
|--------------|--------------------------|-----------|--------------------------|------------|--------------------------|

3. Thodu vali (Tenderness)

- | | | | |
|-----------|--------------------------|------------|--------------------------|
| 1. Absent | <input type="checkbox"/> | 2. Present | <input type="checkbox"/> |
|-----------|--------------------------|------------|--------------------------|

VII. MALAM (STOOLS)

1. Niram (Color)

- | | | | |
|----------------------|--------------------------|--------------------------|--------------------------|
| 1. Karuppu
(Dark) | <input type="checkbox"/> | 2. Manjal
(Yellowish) | <input type="checkbox"/> |
|----------------------|--------------------------|--------------------------|--------------------------|

- | | | | |
|-------------------------|--------------------------|-----------------------|--------------------------|
| 3. Sivappu
(Reddish) | <input type="checkbox"/> | 4. Velluppu
(Pale) | <input type="checkbox"/> |
|-------------------------|--------------------------|-----------------------|--------------------------|

2. Sikkal (Constipation)

- | | | | |
|------------|--------------------------|-----------|--------------------------|
| 1. Present | <input type="checkbox"/> | 2. Absent | <input type="checkbox"/> |
|------------|--------------------------|-----------|--------------------------|

3. Sirutthal (Poorly formed stools)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>
4. Kalichchal (Loose watery stools)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>
5. Seetham (Watery and mucoid excrements)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>
6. Vemmai (Warmth)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>
7. History of habitual constipation	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>
8. Passing of	a) Mucous	1. Yes <input type="checkbox"/>	2. No <input type="checkbox"/>	
	b) Blood	1. Yes <input type="checkbox"/>	2. No <input type="checkbox"/>	

VIII. MOOTHIRAM (URINE)

(a) NEER KURI (PHYSICAL CHARACTERISTICS)

1. Niram (colour)

Colourless	<input type="checkbox"/>	Milky purulent	<input type="checkbox"/>	Orange	<input type="checkbox"/>
Red	<input type="checkbox"/>	Greenish	<input type="checkbox"/>	Dark brown	<input type="checkbox"/>
Bright red	<input type="checkbox"/>	Black	<input type="checkbox"/>	Brown red or yellow	<input type="checkbox"/>

2. Manam (odour)

		Yes	No
Ammonical	:	<input type="checkbox"/>	<input type="checkbox"/>
Fruity	:	<input type="checkbox"/>	<input type="checkbox"/>

Others : _____

3. Edai (Specific gravity)

Yes

No

Normal (1.010-1.025)

:

☐☐

High Specific gravity (>1.025)

:

☐☐

Low Specific gravity (<1.010)

:

☐☐

Low and fixed Specific gravity (1.010-1.012):

☐☐

4. Alavu(volume)

Yes

No

Normal (1.2-1.5 lt/day)

:

☐☐

Polyuria (>2lt/day)

:

☐☐

Oliguria (<500ml/day)

:

☐☐

5. Nurai(froth)

Yes

No

Clear

:

☐☐

Cloudy

:

☐☐

6. Enjal (deposits)

:

Yes

No

☐☐

(b) NEI KURI (oil spreading sign)

1. Aravam
(Serpentine fashion)

☐

2. Mothiram
(Ring)

☐

- | | | | |
|-------------------------------------------------------|--------------------------|----------------------------------------------------|--------------------------|
| 3. Muthu
(Pearl beaded appear) | <input type="checkbox"/> | 4. Aravil Mothiram
(Serpentine in ring fashion) | <input type="checkbox"/> |
| 5. Aravil Muthu
(Serpentine and Pearl patterns) | <input type="checkbox"/> | 6. Mothirathil Muthu
(Ring in pearl fashion) | <input type="checkbox"/> |
| 7. Mothirathil Aravam
(Ring in Serpentine fashion) | <input type="checkbox"/> | 8. Muthil Aravam
(Pearl in Serpentine fashion) | <input type="checkbox"/> |
| 9. Muthil Mothiram
(Pearl in ring fashion) | <input type="checkbox"/> | 10. Asathiyam
(Incurable) | <input type="checkbox"/> |
| 11. Mellena paraval
(Slow spreading) | <input type="checkbox"/> | 12. others: _____ | |

[9]. MANIKADAI NOOL (Wrist circummetric sign) : _____ fbs

[10] MUKKUTRA MIGU GUNAM

I. Vali Migu Gunam

1. Present

2. Absent

- | | | |
|----------------------------|--------------------------|--------------------------|
| 1. Emaciation | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Complexion – blackish | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Desire to take hot food | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Shivering of body | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Abdominal distension | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Constipation | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Insomnia | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Weakness | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Defect of sense organs | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Giddiness | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Lack of interest | <input type="checkbox"/> | <input type="checkbox"/> |

II. Pitham Migu Gunam

1. Present

2. Absent

- | | | |
|----------------------------------------|--------------------------|--------------------------|
| 1. Yellowish discolouration of skin | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Yellowish discolouration of the eye | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Yellow coloured urine | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Yellowishness of faeces | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Increased appetite | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Increased thirst | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Burning sensation over the body | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Sleep disturbance | <input type="checkbox"/> | <input type="checkbox"/> |

III. Kapham migu gunam

1. Present

2. Absent

- | | | |
|----------------------------------|--------------------------|--------------------------|
| 1. Increased salivary secretion | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Reduced activeness | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Heaviness of the body | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Body colour – fair complexion | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Chillness of the body | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Reduced appetite | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Eraippu | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Increased sleep | <input type="checkbox"/> | <input type="checkbox"/> |

[12]. Date of Birth

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

[13]. Time of Birth

<input type="text"/>	AM	<input type="text"/>	PM	<input type="text"/>
----------------------	----	----------------------	----	----------------------

[14]. Place of Birth:

[15]. **Rasi (Zodiac Sign)**

1. Mesam	<input type="checkbox"/>	2. Rishabam	<input type="checkbox"/>	3. Midhunam	<input type="checkbox"/>
4. Katakam	<input type="checkbox"/>	5. Simmam	<input type="checkbox"/>	6. Kanni	<input type="checkbox"/>
7. Thulam	<input type="checkbox"/>	8. Viruchiam	<input type="checkbox"/>	9. Dhanusu	<input type="checkbox"/>
10. Maharam	<input type="checkbox"/>	11. Kumbam	<input type="checkbox"/>	12. Meenam	<input type="checkbox"/>

[16]. **Natchathiram (birth stars):**

1. Aswini	<input type="checkbox"/>	2. Barani	<input type="checkbox"/>	3. Karthikai	<input type="checkbox"/>
4. Rohini	<input type="checkbox"/>	5. Mirugaseeradam	<input type="checkbox"/>	6. Thiruvathirai	<input type="checkbox"/>
7. Punarpoosam	<input type="checkbox"/>	8. Poosam	<input type="checkbox"/>	9. Ayilyam	<input type="checkbox"/>
10. Makam	<input type="checkbox"/>	11. Pooram	<input type="checkbox"/>	12. Utthiram	<input type="checkbox"/>
13. Astham	<input type="checkbox"/>	14. Chithirai	<input type="checkbox"/>	15. Swathi	<input type="checkbox"/>
16. Visakam	<input type="checkbox"/>	17. Anusam	<input type="checkbox"/>	18. Kettai	<input type="checkbox"/>
19. Moolam	<input type="checkbox"/>	20. Pooradam	<input type="checkbox"/>	21. Uthiradam	<input type="checkbox"/>
22. Thiruvonam	<input type="checkbox"/>	23. Avittam	<input type="checkbox"/>	24. Sadayam	<input type="checkbox"/>
25. Poorattathi	<input type="checkbox"/>	26. Uthirattathi	<input type="checkbox"/>	27. Revathi	<input type="checkbox"/>
28. Not Known	<input type="checkbox"/>				

Date:

PG Scholar:

Faculty:

FORM VI - INFORMED WRITTEN CONSENT FORM

Iexercising my free power of choice, hereby give my consent to be included as a subject in the diagnostic trial entitled A study on **KARNAVARTHAM**". I may be asked to give urine and blood samples during the study.

I have been informed about the study to my satisfaction by the attending investigator about the purpose of this trial, the nature of study and the laboratory investigations. I also give my consent to publish my study results in scientific conferences and reputed scientific journals for the betterment of clinical research.

I am also aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

Signature /thumb impression of the patient:

Date:

Name of the patient:

Signature of the investigator:

Date:

Head of the Department:

FORM II

HISTORY PROFORMA

1. Sl.No of the case: _____

2. Name: _____ Height: _____ cm Weight: _____ Kg

3. Age (years): _____ DOB

--	--

--	--

--	--	--	--

D D M M Y E A R

4. Educational Status:

1) Illiterate ☐ 2) Literate ☐ 3) Student ☐ 4) Graduate/Postgraduate ☐

5. Nature of work:

1) Sedentary work ☐
2) Field work with physical labor ☐
3) Field work Executive ☐

6. Complaints and Duration:

7. History of present illness:

8. History of Past illness:

	1. Yes	2. No
Systemic hypertension	<input type="checkbox"/>	<input type="checkbox"/>
Ischemic heart disease	<input type="checkbox"/>	<input type="checkbox"/>
Dyslipidemia	<input type="checkbox"/>	<input type="checkbox"/>
Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
Bronchial asthma	<input type="checkbox"/>	<input type="checkbox"/>
Any drug allergy	<input type="checkbox"/>	<input type="checkbox"/>
Any surgeries	<input type="checkbox"/>	<input type="checkbox"/>
Any ear diseases	<input type="checkbox"/>	<input type="checkbox"/>

9. Habits:

	1. Yes	2. No
Smoker	<input type="checkbox"/>	<input type="checkbox"/>
Alcoholic	<input type="checkbox"/>	<input type="checkbox"/>
Drug Addiction	<input type="checkbox"/>	<input type="checkbox"/>
Betel nut chewer:	<input type="checkbox"/>	<input type="checkbox"/>
Tea	<input type="checkbox"/>	<input type="checkbox"/>
Coffee	<input type="checkbox"/>	<input type="checkbox"/>
Milk	<input type="checkbox"/>	<input type="checkbox"/>

Type of diet V ☐ NV ☐ M ☐

10. Personal history:

Marital status: Married ☐ Unmarried ☐

No. of children: Male: _____ Female: _____

Socio economic status:

11. Family history:

History of Diabetes Mellitus:

History of Hypertension:

History of other illness:

12. Menstrual & Obstetric history:

Age at menarche _____ years

Gravidity ☐ Parity ☐

Duration of the menstrual cycle (days).....

Constancy of cycle duration: 1.Regular ☐ 2.Irregular ☐

13. CLINICAL SYMPTOMS OF KARNAAVARTHAM:

- | | | |
|--------------------------|--------------------------|--------------------------|
| 1. Age 20-65yrs both sex | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Neck pain | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Stiffness of neck | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Occipital headache | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Ear pain | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Chest discomfort | <input type="checkbox"/> | <input type="checkbox"/> |

Date:

PG Scholar:

Faculty:

FORM-IV-LABORATORY INVESTIGATIONS

1. O.P No: _____ Lab.No _____ Serial No _____

2. Name: _____

3. Date of birth:

--	--

--	--

--	--	--	--

D D M M Y E A R

4. Date of assessment: _____

I. Blood

1. TC _____ Cells/cu mm

2. DC

P ____% L ____% E ____% M ____% B ____%

3. Hb ____ g%

4. ESR at 30 minutes _____ mm At 60 minutes _____ mm

5. Blood Sugar-F ____ mg%

6. Blood Sugar-PP ____ mg%

7. Serum Cholesterol ____ mg %

8. HDL ____ mg%

9. LDL ____ mg%

10. Triglycerides ____ mg%

11. Blood Urea ____ mg%

12. Serum Creatinine ____ mg%

II. Urine

1. Neerkuri _____
2. Neikuri _____
3. Sugar F&PP _____
4. Albumin _____
5. Deposits _____

III. Special Investigation (optional)

MRI Cervical Spine

Date:

P.G Student:

Faculty:

FORM V- PATIENT INFORMATION SHEET

PURPOSE OF RESEARCH AND BENEFITS:

The diagnostic research study in which your participation is proposed to assess the diagnostic methods in Siddha methodology in “**KARNAAVARTHAM**” patients. Knowledge gained from this study would be of benefit to patients suffering from such conditions for the diagnosis and prognosis.

STUDY PROCEDURE:

You will be interviewed and examined as OP and IP patients at the study centre. At the first visit the physician will conduct a brief physical examination and assess the condition followed by Envagai thervu and routine blood and urine analysis. After matching the inclusion criteria you will be included in this study and you will be examined on the basis of Envagai thervu.

POSSIBLE RISK:

During this study there may be a minimum pain to you while drawing blood sample.

CONFIDENTIALITY:

Your medical records will be treated with confidentiality and will be revealed only to other doctors / scientists. The results of this study may be published in a scientific journal, but you will not be identified by your name.

YOUR PARTICIPATION AND YOUR RIGHTS:

Your participation in this study is voluntary and you may be withdrawn from this study anytime without having to give reasons for the same. You will be informed about the findings that occur during the study. If you do agree to take part in this study, your health record will need to be made available to the investigators. If you don't wish to participate at any stage, the level of care you receive will in no way be affected.

The Ethics committee cleared the study for undertaking at OPD and IPD, NIS.
Should any question arise with regards to this study you contact following person.

PG Student:

Dr. P. Parvatha Rani, M.D. (S)

Department of Noi Naadal
National Institute of Siddha
Chennai -47.

Email: paarurani@gmail.com

Ph no: 7358451601.

**A STUDY ON DIAGNOSTIC METHODOLOGY AND
SYMPTOMATOLOGY OF “KARNAAVARTHAM”**

FORM I

SCREENING AND SELECTION PROFORMA

1. O.P.No _____ 2. I.P No _____ 3. Bed No: _____ 4. S. No: _____

5. Name: _____ 6. Age (years): 7. Gender: M ☐ F ☐ T ☐

8. Occupation: _____ 9. Income: _____

10. Address: _____

11. Contact No: _____

12. E-mail : _____

13. Whether taken any other medication for the same disease previously: YES ☐ NO ☐

If yes, Name of the medicines :

Duration :

If resorted to Siddha medicine for the treatment of Karnaavartham : YES ☐ NO ☐

Reason for resorting to Siddha medicine

(a)Cost effectiveness :	<input type="checkbox"/>	<input type="checkbox"/>
(b)No side effects in Siddha medicine :	<input type="checkbox"/>	<input type="checkbox"/>
(c)Dissatisfaction with the previous treatment:	<input type="checkbox"/>	<input type="checkbox"/>

INCLUSION CRITERIA

	YES	NO
1. Age 18-55yrs	<input type="checkbox"/>	<input type="checkbox"/>
2. Neck pain	<input type="checkbox"/>	<input type="checkbox"/>
3. Occipital headache	<input type="checkbox"/>	<input type="checkbox"/>
4. Ear pain	<input type="checkbox"/>	<input type="checkbox"/>
5. Stiffness of neck	<input type="checkbox"/>	<input type="checkbox"/>
6. Chest discomfort	<input type="checkbox"/>	<input type="checkbox"/>

Patients who fulfill any of the four criteria are included to the study

EXCLUSION CRITERIA

1. Major systemic illness	<input type="checkbox"/>	<input type="checkbox"/>
2. Cardiac diseases	<input type="checkbox"/>	<input type="checkbox"/>
3. Ear diseases	<input type="checkbox"/>	<input type="checkbox"/>
4. Migraine headache	<input type="checkbox"/>	<input type="checkbox"/>
5. Vulnerable group	<input type="checkbox"/>	<input type="checkbox"/>

Date:

P.G Student:

Faculty: